



PRINCESS SIRINDHORN
PROJECT

**A Collaborative Project on Children and Youth Development
between the Kingdom of Thailand and the Kingdom of Bhutan
under the Patronage of
Her Royal Highness Princess Maha Chakri Sirindhorn**





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*During a royal visit (between 23 and 26 May 2016),
His Majesty King Jigme Khesar Namgyel Wangchuck
granted an audience to
Her Royal Highness Princess Maha Chakri Sirindhorn
of Thailand
at Tashichhodzong on May 25, 2016.*

INTRODUCTION



Improving nutrition of Bhutanese children through the school feeding programme has been jointly implemented by the Ministry of Education and Skills Development (MoESD), Royal Government of Bhutan and World Food Programme (WFP) for over 30 years. In subsequent years, the Royal Government of Bhutan began to assume a more active role in the programme, as the WFP gradually transferred responsibility for programme implementation to the Government. During this transition period, the government has sought practices appropriate to the Bhutanese context. One recognised best practice is *the Agriculture for School Lunch Project, initiated by Her Royal Highness Princess Maha Chakri Sirindhorn, a Special Ambassador of the United Nations World Food Programme for School Feeding*, which has been implemented in more than 700 schools throughout the Kingdom of Thailand since 1980.

Upon the request of the Royal Government of Bhutan through the WFP Country Office in Bhutan, a study visit was organised by the Office of Her Royal Highness Princess Maha Chakri Sirindhorn's Projects (OPSP) for Bhutanese team, consisting of the programme officials from the MoESD and WFP Country Office Bhutan, to explore and learn from the Agriculture for School Lunch Model of Her Royal Highness Princess Maha Chakri Sirindhorn in Thailand between 16 and 22 December 2007. During the visit, the possibility of future collaboration was

also discussed. The study visit marked the initial step towards collaboration between the two countries under the

patronage of Her Royal Highness Princess Maha Chakri Sirindhorn.



December 21, 2007, Her Royal Highness Princess Maha Chakri Sirindhorn graciously granted an audience to the first Bhutanese team.

Hands-on experiences gained from the study visit were adopted in schools by the Bhutanese team. In 2010, a team of technical advisers from the Office of Her Royal Highness Princess Maha Chakri Sirindhorn's Projects was invited to visit Bhutan to monitor progress and provide guidance on the ongoing project. Thereafter, in 2011, the integrated approach model of Her Royal Highness was fully piloted in three selected schools in Pemagatshel district, Thimphu district and Paro district. These schools demonstrated significant progress in agricultural production. In boarding schools, fresh and safe food from school farms was used to prepare nutritious meals three times daily. Moreover, community participation been enhanced as evidenced by one pilot

school in Pemagatshel district that shares its school agricultural plots with the local communities. These outcomes reflect a pathway towards sustainable implementation at the school level and, in the long term, contribute to food security for nearby communities. Later in 2013, the Agriculture for School Lunch Model was expanded to three other schools, followed by the addition of five other schools in 2018.

Between 23 and 26 May 2016, Her Royal Highness Princess Maha Chakri Sirindhorn paid an official visit to Bhutan to oversee the expansion of project activities in Bhutanese schools, marking a significant step in strengthening collaboration between the two countries.



A weeping fig was planted by Her Royal Highness on May 25, 2016, at Samtengang Central School.



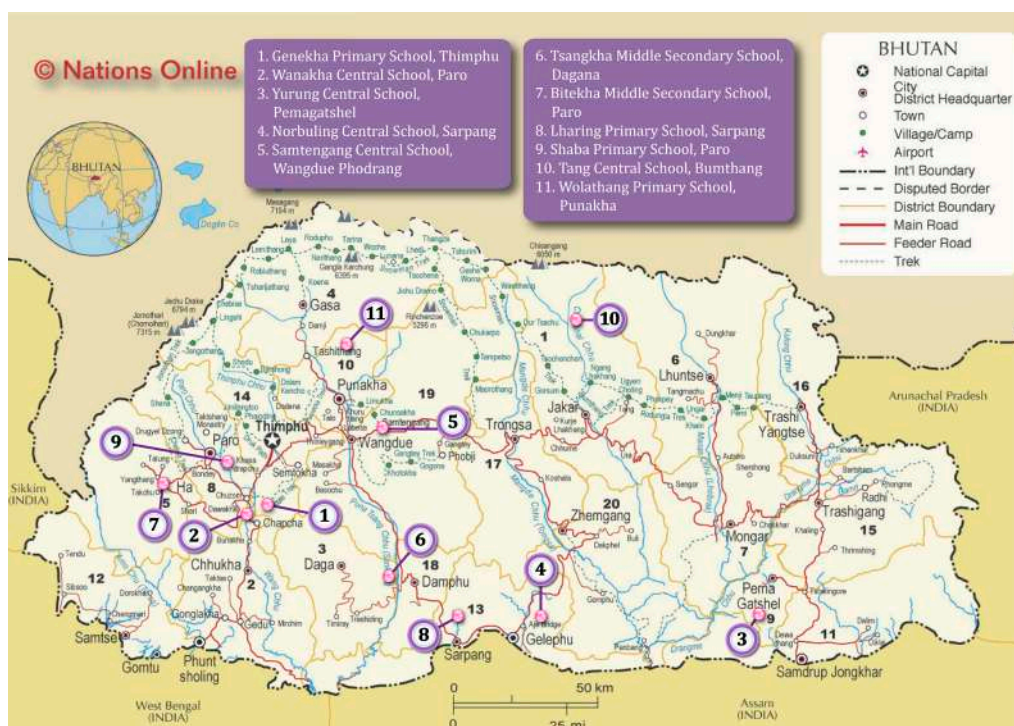
Here is a growing weeping fig (October 2025).



*May 25, 2016, Her Royal Highness Princess Maha Chakri Sirindhorn
at Samtengang Central School, Wangdue Phodrang
Inauguration of new poultry farm with 344 pullets to feed 791 students*

Up to the present, a total of 11 participating schools in eight districts across the country, covering different altitudes, climatic conditions, agro-ecological zones and crop-cultivation patterns, have fully implemented the agriculture for school

lunch model, a collaborative project on children and youth development under the patronage of Her Royal Highness Princess Maha Chakri Sirindhorn, and can serve as learning centres for other schools and local communities to visit and learn from their experiences.



Location of 11 participating schools in eight districts across the country

A COLLABORATIVE PROJECT ON CHILDREN AND YOUTH DEVELOPMENT

> >

A Collaborative Project on Children and Youth Development between the Kingdom of Thailand and the Kingdom of Bhutan was established under the patronage of Her Royal Highness Princess Maha Chakri Sirindhorn. *The primary goal* of this collaboration is to strengthen schools' capacities to improve children's nutrition and health in order to enhance their learning by applying Her Royal Highness's practical experiences (details on the page 39). It is expected that this collaboration can lead to a mobilization for improving the quality of life of children and youth in schools as well as a platform for sharing experiences so that *the ultimate goal* of children's well-being can be achieved.

SCOPE OF THE COLLABORATIVE PROJECT



The collaborative project which is based on the initiative of Her Royal Highness, includes the following interventions.

1. School agriculture

School agriculture or school farm is the first and major intervention component. It provides children with fresh and nutritious food, improving their nutritional status. It is a good resource for teaching and learning of many subjects. It is also a good resource for vocational training, supporting those who do not want to continue their study beyond basic education. Through school agriculture, other components of childhood development can be linked and integrated together and new ideas or new techniques can reach others in the community.

The aims of school agriculture are:

- * to instil knowledge, skills, and positive attitude towards production of safe and nutritious food through sustainable agriculture and with appropriate technology in environmental management, which can be a basis for self-reliance in the future

- * to provide nourishing and safe food for school meals

The activities include:

- * establish a small-scale integrated farm: vegetable and fruit plantation with emphasis on local vegetables and fruits, mushroom cultivation, animal husbandry, fishery
- * water management techniques
- * use of organic manure, compost, rotation planting, and vetiver grass for improving and maintaining soil structure and fertility and preventing soil erosion
- * use of biological controls to eliminate pests
- * post-harvest handling, food preservation, and processing

School agriculture areas : examples





at Yurung Central School, Pemagatshel



at Genekha Primary School, Thimphu



at Tsangkha Middle Secondary School, Dagana



at Samtengang Central School, Wangdue Phodrang

School agriculture activities include:



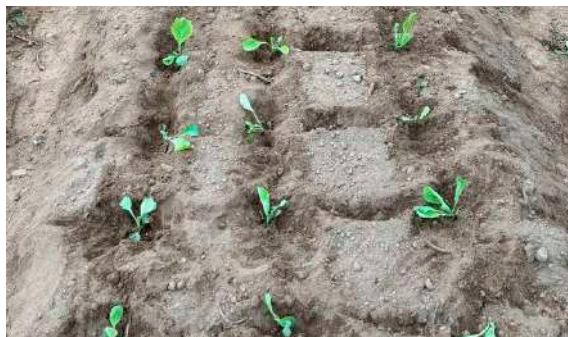
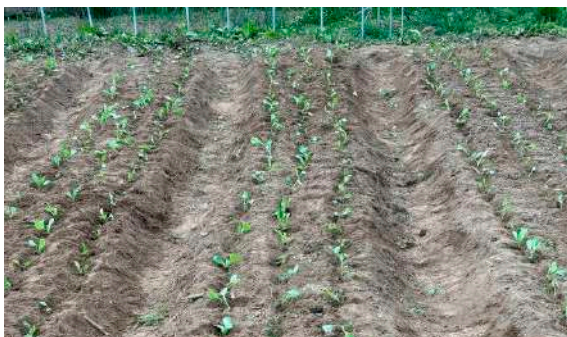
Land and garden beds preparation



Fencing helps protect wild animals



Water system



Transplantation

Taking care of gardening plots



• *applying organic fertilizer*



• *composting*



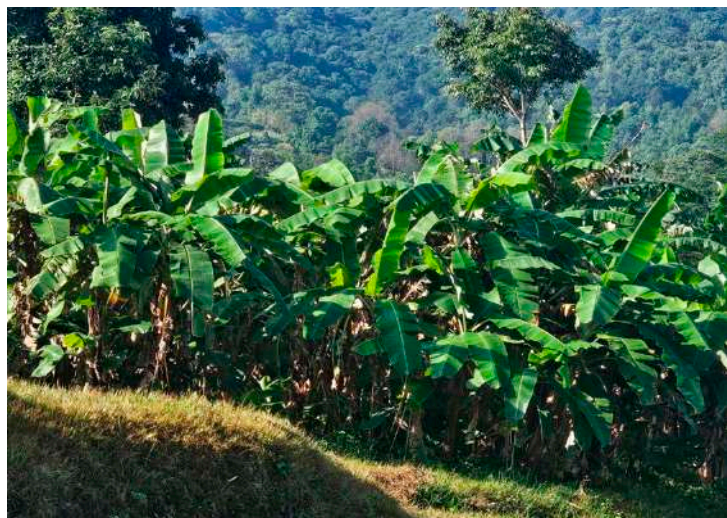
• *weeding*



Growing vegetable in greenhouse



Mushroom cultivation



Fruit trees



Harvest time

Animal husbandry



· poultry



· pigs



· cattle



Agricultural products ready for distribution



Home made tomatoes
sauce 12L



Food preservation and processing

2. School cooperatives

Cooperative is a basic practice in schools. It is the process of working together as a team. Children develop good ethics in dealing and living with others in society, honesty, sincerity, kindness, compassion, sharing and caring for one another, responsibility, and teamwork. In running cooperative activity, children are trained to be on the cooperative committee. They have to convene, to debate, and to keep accounts, etc. It is also linked to many other development activities such as agriculture, livestock raising, fishery, handicraft, etc.

The aims of school cooperatives are:

- * to provide an opportunity for children to familiarize themselves with cooperative principles
- * to apply the cooperative principles for agricultural product management

The activities include:

- * arrange a learning process for the development of the characteristics of self-reliance and mutual assistance according to the ideals of co-operatives
- * establish co-op shops as a place for children to practice basic knowledge and skills about co-operatives

3. School meal services

Malnourished children easily become ill. They are more likely to be absent from school and fail to achieve their optimal school performance. Schools can offer nutrition services more effectively as they are places where children gather together; schools can also reach children at a critical age for developing lifestyles, including eating habits and basic personal hygiene, which can contribute to good nutrition and good health in the long term.

The aims of school meal services are:

- * to provide nutritious and clean meals for children on every school day
- * to help develop proper eating habits of children
- * to alleviate hunger and malnutrition

The activities include:

- * prepare a meal using fresh and nourishing ingredients from school farms
- * serve nutritious and clean meals to children on every school day
- * provide opportunities for children to practice healthy eating, food safety, and socializing during mealtimes
- * provide clean drinking water after a meal





Meals are served



Dinning hall



Products from the bakery unit at Bitekha Middle Secondary School nourishing the whole school community

4. Nutrition monitoring system

Once a school meal is provided, we must follow up on the nutritional status of the children. A monitoring system at each target school is set up so that school teachers can monitor the nutritional status of their students and provide proper care for individuals. The most practical and non-invasive method is selected: the measurement of students' weights and heights.

An aim of a nutrition monitoring system is:

- * to monitor child growth and nutritional status and provide proper actions to improve the nutritional status of both undernutrition and overnutrition

The activities include:

- * establish a monitoring system in a school
- * measure body weight and height of each child periodically (e.g. twice a year, at the beginning and at the end of each academic year), then interpret his/her current nutritional status
- * provide proper feeding and care to malnourished children in school as well as at home



Examples of data record and report forms

Nutritional Status Genekha Lower Secondary school Thimphu Dzongkhag Term After Mid term Year 2012									
Grade: PP					Assessment Date: 14 September				
					BMI/AGE				
Sl no	Name	Sex	Weight	Height	BMI	Wasted	Normal	Over weight	Obesed
1	Gawa Zangpo	M	22.5	117	16.4		✓		
2	Jigme Kuendel	M	22	117	16.4		✓		
3	Kencho Namgay	M	22.3	111	18.1			✓	
4	Kencho Tshering	M	21.5	112	17.1		✓		
5	Pema Norbu	M	23.6	117	17.3		✓		
6	Phub Sonam	M	21.3	110	17.6		✓		
7	Sangay Penjor	M	21.2	111	17.2		✓		
8	Tandin Gyeltshen	M	20.3	109	17.1		✓		
9	Tshencho Dorji	M	20.3	111	16.5		✓		
10	Chimi Seldon	FM	20	111	16.2	✓			
11	Dachen Zangmo	FM	33.5	136	18.1		✓		
12	Dema Yangzom	FM	19	102	18.3		✓		
13	Dorji Wangmo	FM	20.3	111	16.5	✓			
14	Kezang Lhamo	FM	20	110	16.5	✓			
15	Kencho Sonam	FM	20.1	110	16.6	✓			

Over all Summary Percentage: First Round

Class	No. of std	Height for age [%]				BMI for Age [%]			
		Severe Stunt	Stunt	Slightly Short	Normal	Wasted	Normal	Over weight	Obese
PP	19	21.1	15.8	10.5	52.6	0.0	94.7	5.3	0.0
I	19	5.3	36.8	26.3	31.6	0.0	100.0	0.0	5.3
II	24	4.2	20.8	12.5	58.3	0.0	83.3	12.5	0.0
III	18	0.0	16.7	55.6	27.8	0.0	94.4	5.6	0.0
IV	22	13.6	22.7	13.6	50.0	4.5	90.9	4.5	0.0
V	19	15.79	26.3	21.1	36.8	0.0	94.7	5.3	5.3
VI	18	5.556	27.8	11.1	55.6	0.0	83.3	16.7	0.0
VII A	38	7.9	18.4	31.6	42.1	0.0	92.1	5.3	2.6
VII B	39	5.1	20.5	17.9	56.4	0.0	100.0	0.0	0.0
VIII A	39	0	20.5	23.1	56.4	0.0	84.6	12.8	2.6
VIII B	35	0.0	31.4	20.0	48.6	0.0	91.4	8.6	0.0
Over all %		7.1	23.4	22.1	46.9	0.4	91.8	7.0	1.4

Statistic
Nutrition Situation (by BMI for age), Year 2022
(11 participating schools)

BMI for Age	Number	Percent
Wasted	260	4.80
Normal	3986	74.20
Overweight	811	15.10
Obese	309	5.70
TOTAL	5366	

5. Personal hygiene practices

Personal hygiene involves maintaining the cleanliness of our body and clothes. Unhealthy practices can potentially cause illness and can have an impact on the nutrition and health status of schoolchildren. As children spend about 4-6 hours in schools, which they may be exposed to diseases or other harm, teachers can detect poor hygiene practices and change or modify their behaviours into proper practices that can prevent the spread of communicable diseases such as diarrhoea.

An aim of personal hygiene practices is:

- * to develop proper personal hygiene practices in children in order to maintain health and prevent germs from spreading

The activities include:

- * washing hand before a meal and after defecating
- * brushing teeth after a meal
- * checking up the cleanliness of bodies and clothes
- * always keeping fingernails and toenails trimmed and in good shape



6. School health services

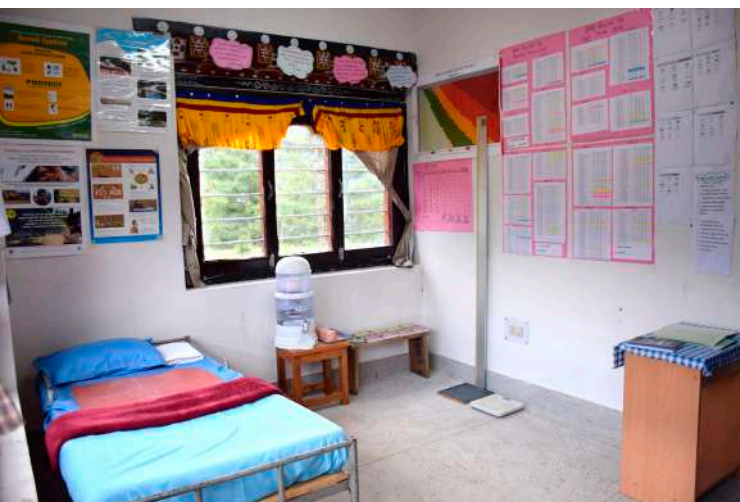
Schools are easily accessible by schoolchildren as well as school personnel and communities. They also have teachers who can be trained as health teachers. Therefore, basic and simple diagnosis and treatments can be provided to everyone in order to alleviate the severity of health problems and to prevent possible losses.

An aim of school health services is:

- * to prevent or reduce illnesses among schoolchildren by monitoring or providing appropriate prevention and treatment services at school sites.

The activities include:

- * establish a school health clinic
- * first-aid service
- * vision screening
- * routine checking for the cleanliness of body and clothing
- * screening for disease and abnormality
- * annual health examinations
- * parasitic control, i.e. malaria prevention: providing diagnostic services to detect malaria and worms, providing rudimentary treatment, and arranging for changes in behaviours for self-protection from infection with the cooperation of the community
- * illness recordings (such as diarrhoea, fever, colds)
- * promoting regular exercises



BMI 2015							
Sl.No	Class	Total st	Normal	Over weight	Obesity	Thinness	Some Thinness
1	PP	9	7	1	—	1	—
2	I	16	14	2	1	—	—
3	II	12	12	—	—	—	—
4	III	23	21	—	—	1	1
5	IV	40	31	6	2	—	1
6	V	31	29	2	—	—	—
7	VI	25	22	3	—	1	—
8	VII	44	38	5	—	1	—
9	VIII	43	39	4	—	—	—
10		243	213	23	3	4	2

BMI 2016							
Sl.No	Class	T. st	Normal	Over weight	Obesity	Thinness	Some Thinness
01	PP	15	12	1	—	—	1
02	I	11	11	—	—	—	—
03	II	26	23	3	—	—	—
04	III	17	16	—	1	—	—
05	IV	36	33	—	—	3	—
06	V	42	35	3	3	—	1
07	VI	41	37	3	1	—	—
08	VII	40	36	3	1	—	—
09	VIII	23	20	3	—	—	—
10	VIII	23	20	2	—	1	—
		274	243	18	6	5	2

BMI 2017							
Sl.No	Class	T. st	Normal	Over weight	Obesity	Thinness	Some Thinness
1	PP	14	13	—	—	1	—
2	I	24	22	—	—	2	—
3	II	16	14	1	1	—	—
4	III	29	24	2	—	3	—
5	IV	34	30	1	3	—	—
6	V	25	18	3	3	1	—
7	VIA	26	22	3	1	—	—
8	VIB	35	22	3	9	1	—
9	VII A	35	28	1	2	4	—
10	VII B	41	30	7	4	—	—
11	VIII	38	28	5	5	—	—

BMI 2018							
Sl.No	Class	T. st	Normal	Over weight	Obesity	Thinness	Some Thinness
1	PP	20	18	2	—	—	—
2	I	12	10	1	—	1	—
3	II	27	22	3	—	2	—
4	III	23	21	1	—	1	—
5	IV	36	29	4	3	—	—
6	V	41	31	4	5	1	—
7	VIA	31	26	2	—	3	—
8	VIB	31	27	4	—	—	—
9	VII A	39	26	5	5	4	—
10	VII B	39	25	7	5	2	—
11	VIII	35	23	5	4	3	—
12		335	258	34	22	17	—



7. School sanitation

Sanitation and hygiene in schools are of high impact on children's health and their performance. With poor conditions of sanitation and hygiene facilities, schools can become risky places where diseases are transmitted e.g. diarrhoeal and other hygiene-related diseases. Therefore, it is important that schools have sanitary facilities. However, only facilities are not enough, hygienic behaviours and proper use of the facilities are also needed.

The aims of school sanitation are:

- * to provide a safe and healthy environment conducive to the learning process
- * to motivate schoolchildren to practice hygienic habits, including hand washing and toilet practices

The activities include:

- * provide safe drinking water
- * provide separate sanitary latrines for boys and girls
- * provide hand-washing facilities
- * provide water supply system and water storage system
- * provide a waste water drainage system
- * provide disposal and recycling waste management system
- * practice proper use, cleaning, and maintenance of these facilities





Water source cleaning @ Lharing PS



Drinking water



Washrooms monitoring @ Lharing PS



Samtengang's happy toilets

8. Agriculture, nutrition, health and hygiene education

Food insecurity, ignorance, and unhealthy practices are major factors, contributing to more severe malnutrition found in children in remote communities.

To enhance food security at households or in communities, agricultural education is needed so that the young generation is well prepared to be excellent farmers in the future. Children should be provided with knowledge, skills, and positive attitude towards production of safe and nutritious food through sustainable agriculture and with appropriate technology in environmental management, which can be a basis for self-reliance in the future.

Nutrition, health, and hygiene education are also important. Children in schools are at a critical age for establishing and developing proper behaviours in nutrition and personal hygiene, which can contribute to good nutrition and good health in the long term.

An aim of agriculture, nutrition, health, and hygiene education is:

- * to instill knowledge, skills, and positive attitude in agriculture, nutrition, and good hygienic practices.

The activities include:

- * design learning activities suitable for each grade based on learning by *doing*

process corresponds to the work in the school farms

- * design learning activities suitable for each grade based on *learning by doing process* through school gardening, school meal services, sanitation, and etc.
- * arrange the learning process and evaluate the outcomes, which mostly focus on children knowledge, skills, and attitudes

Examples:

Learning activity on food preservation aims to provide skills on food preservation techniques and impart entrepreneurial skills for lifelong vocation through hands-on practice.





Sl. No.	Date	Time	Particulars	Amount	Balance
1	01-01-2012	10	100	100	
2	02-01-2012	10	20	20	
3	03-01-2012	10	30	30	
4	04-01-2012	10	40	40	
5	05-01-2012	10	50	50	
6	06-01-2012	10	60	60	
7	07-01-2012	10	70	70	
8	08-01-2012	10	80	80	
9	09-01-2012	10	90	90	
10	10-01-2012	10	100	100	
11	11-01-2012	10	110	110	
12	12-01-2012	10	120	120	
13	13-01-2012	10	130	130	
14	14-01-2012	10	140	140	
15	15-01-2012	10	150	150	
16	16-01-2012	10	160	160	
17	17-01-2012	10	170	170	
18	18-01-2012	10	180	180	
19	19-01-2012	10	190	190	
20	20-01-2012	10	200	200	
21	21-01-2012	10	210	210	
22	22-01-2012	10	220	220	
23	23-01-2012	10	230	230	
24	24-01-2012	10	240	240	

Manufactured	Particulars (2012)	Quantity	Total	Manufactured	Particulars (2012)	Quantity	Total
1000g	20 packets	200g	1000g	1000g	20 packets	200g	1000g
2000g	40 packets	400g	2000g	2000g	40 packets	400g	2000g
3000g	60 packets	600g	3000g	3000g	60 packets	600g	3000g
4000g	80 packets	800g	4000g	4000g	80 packets	800g	4000g
5000g	100 packets	1000g	5000g	5000g	100 packets	1000g	5000g
6000g	120 packets	1200g	6000g	6000g	120 packets	1200g	6000g
7000g	140 packets	1400g	7000g	7000g	140 packets	1400g	7000g
8000g	160 packets	1600g	8000g	8000g	160 packets	1600g	8000g
9000g	180 packets	1800g	9000g	9000g	180 packets	1800g	9000g
10000g	200 packets	2000g	10000g	10000g	200 packets	2000g	10000g

Handwashing awareness



PROCESS FOR IMPLEMENTATION



Once schools are selected, the implementation process is as follows.

The first step: capacity building includes

Training programmes aim to strengthen teachers' knowledge and skills in implementing and managing the project in schools, as they are key persons in driving sustainable development.



Princess Maha Chakri Sirindhorn Scholarship aims at providing opportunities for teachers or officials from participating schools to develop their

capacities and leadership skills in health development in schools through a one-year Master's Degree at Mahidol University, Thailand.



The second step:

an annual school action plan is developed. Fund, tools and other resources required to carry out development activities are provided in accordance with the school plan.



Power tiller



Materials for mesh fencing to protect from wild animals



Food processing unit with equipment



Bakery unit with equipment



Medicine cabinet

The third step: regular monitoring and evaluation, together with technical advise are essential to ensuring the success of the project.

Monitor via online



Her Royal Highness Princess Maha Chakri Sirindhorn
followed up the progress of
the collaborative project on Children and Youth Development

*Wanakha Central School, Paro
May 23, 2016*





Genekha Primary School, Thimpu
May 24, 2016



*Samtengang Central School, Wangdue Phodrang
May 25, 2016*



Exhibitions from 3 schools



Norbuling CS, Sarpang



Tsangkhya LS, Dagana



Yurung CS, Pemagatshel

PROJECT SITES >>

Demographic details of 11 participating schools

Starting Year	School	District	Grade	Altitude (masl) ¹	School type	Total Students ²	Total staff ²
2011	1. Genekha Primary School	Thimphu	PP – VI	2800	Non-residential	242	14
2011	2. Wanakha Central School	Paro	PP – XII	2200-2250	Residential	628	59
2011	3. Yurung Central School	Pemagatshel	PP – X	1300	Residential	331	48
2013	4. Norbuling Central School	Sarpang	PP – XII	300-1000	Residential	840	87
2013	5. Samtengang Central School	Wangdue Phodrang	PP – XII	1100-1900	Residential	658	70
2013	6. Tsangkha Middle Secondary School	Dagana	PP – X	1380	Residential	440	49
2018	7. Betikha Middle Secondary School	Paro	PP – X	2290-2700	Residential	364	46
2018	8. Lharing Primary School	Sarpang	PP – VI	450-620	Non-residential	114	16
2018	9. Shaba Primary School	Paro	PP – VI	2240-2300	Non-residential	696	48
2018	10. Tang Central School	Bumthang	PP – X	2600-2900	Residential	526	67
2018	11. Wolathang Primary School	Punalha	PP – VI	1250-3700	Non-residential	74	11

¹ metres above mean sea level

² year 2025

BHUTAN

- ★ National Capital
- City
- District Headquarter
- Town
- Village/Camp
- ✈ Airport
- Int'l Boundary
- - - Disputed Border
- District Boundary
- Main Road
- Feeder Road
- Trek

1. Genekha Primary School, Thimphu
2. Wanakha Central School, Paro
3. Yurung Central School, Pemagatshel
4. Norbuling Central School, Sarpang
5. Samtengang Central School, Wangdue Phodrang

6. Tsangkha Middle Secondary School, Dagana
7. Bitekha Middle Secondary School, Paro
8. Lharing Primary School, Sarpang
9. Shaba Primary School, Paro
10. Tang Central School, Bumthang
11. Wolathang Primary School, Punakha





Genekha Primary School, Thimphu



Wanakha Central School, Paro



Yurung Central School, Pemagatshel



Norbuling Central School, Sarpang



Samtengang Central School, Wangdue Phodrang



Tsangkha Middle Secondary School, Dagana



Bitekha Middle Secondary School, Paro



Lharing Primary School, Sarpang



Shaba Primary School, Paro



Tang Central School, Bumthang



Wolathang Primary School, Punakha

HER ROYAL HIGHNESS PRINCESS MAHA CHAKRI SIRINDHORN'S INITIATIVES

>>

Her Royal Highness Princess Maha Chakri Sirindhorn began her development project in 1980 by giving the first priority to children, because they are the most vulnerable, and they are the hope for Thailand's future. Her first initiative started with a small experimental project known as **Agriculture for School Lunch**, which was designed to combat hunger and malnutrition among schoolchildren in order to facilitate their learning. Instead of providing children with ready-to-eat meals, Her Royal Highness introduced a small-scale integrated farm to schools in remote areas. The project encouraged teachers, parents, and children to participate in agricultural production in schools. Fresh produce harvested from the school farm was used as ingredients for preparing nutritious school lunches. This initiative was also supported by parents and community members who volunteered their time to assist in cooking and serving meals.

Her Royal Highness's initiatives not only provided children with fresh and healthy meals for better nutrition but also helped them acquire knowledge and skills in agriculture and nutrition. In addition, the involvement of parents and community members created a sense of ownership and strengthened the partnership between the school and the community.

Her Royal Highness once said of her work in remote areas that:

“After working for a while with my parents in remote areas, in the early 70s, I began to have an idea that I might be able to do extra work in schools where children were malnourished. I believed that those kids could not excel in their studies or later in their work if they were hungry. Their urgent need was food. How could my help be sustainable? I did not really know the answer so I experimented on advising schools to start their own vegetable plots and planting fruit trees etc. I used my own piggy bank money for seeds, farm equipment and kitchen utensils, and borrowing or stealing tree saplings from the palace greenhouse. I had my close friends, teachers and palace officials (mainly agronomists) to go and give to those schools knowledge in agriculture and nutrition. I set a rule that all the products must only go to the kitchen, absolutely not for sale. Around that time, in many places, schools and parents who could produce good quality foodstuffs tended to sell their products instead of feeding the kids.

With changing times, I had to adapt and change some of my working methods. I advised schools to sell their products through each school's cooperative shop. Kids are trained to be on the cooperative committee and have to convene, to debate, and to keep accounts. The products from the cooperative shop are sold to the school kitchen. If they have a surplus, school products can also be sold to individuals along with other household items. I hope this activity may help the kids to adapt themselves to the democratic system, and at the same time, we train them the basic academic skills such as mathematics and language. Because in convening, they have to talk, to write, take notes, to calculate the amount, so that would be some kind of total integration of all subjects.”

*Her Royal Highness Princess Maha Chakri Sirindhorn,
Keynote Address at SEAMEO-UNESCO Education Congress and Expo
Bangkok, 27-29 May 2004.*

The following approach was created based on Her Royal Highness Princess Maha Chakri Sirindhorn's

experiences in promoting better nutrition and well-being.



A Complete Cycle of Food and Nutrition Management in Schools - Combating Hunger and Improving Children's Nutrition and Health

At least eight key elements should be implemented simultaneously. These include 1) School agriculture, 2) School cooperatives, 3) School meal services, 4) Nutrition monitoring system, 5) Personal hygiene practices, 6) School health services, 7) School sanitation, and 8) Education in agriculture, nutrition, health, and hygiene. Through the process known as learning by doing, children are the ones who carry out all eight of the aforementioned key elements. This approach is called **a Complete Cycle of Food and Nutrition Management in Schools**. In addition, parents and community members are asked to take part in these activities so that knowledge and technology are then transferred to families and communities resulting in improving household food security and well-being. Details of the eight key elements are described on the page 6

Here are some benefits that children and communities may gain from Her Royal Highness's initiatives.

- (i) children have lunch made from their own agricultural products that they grow and meat from animals that they raise, resulting in nutritious food, full stomachs, and better nutritional status
- (ii) when their stomachs are filled, children learn and think constructively, which will ultimately lead to further development of the country

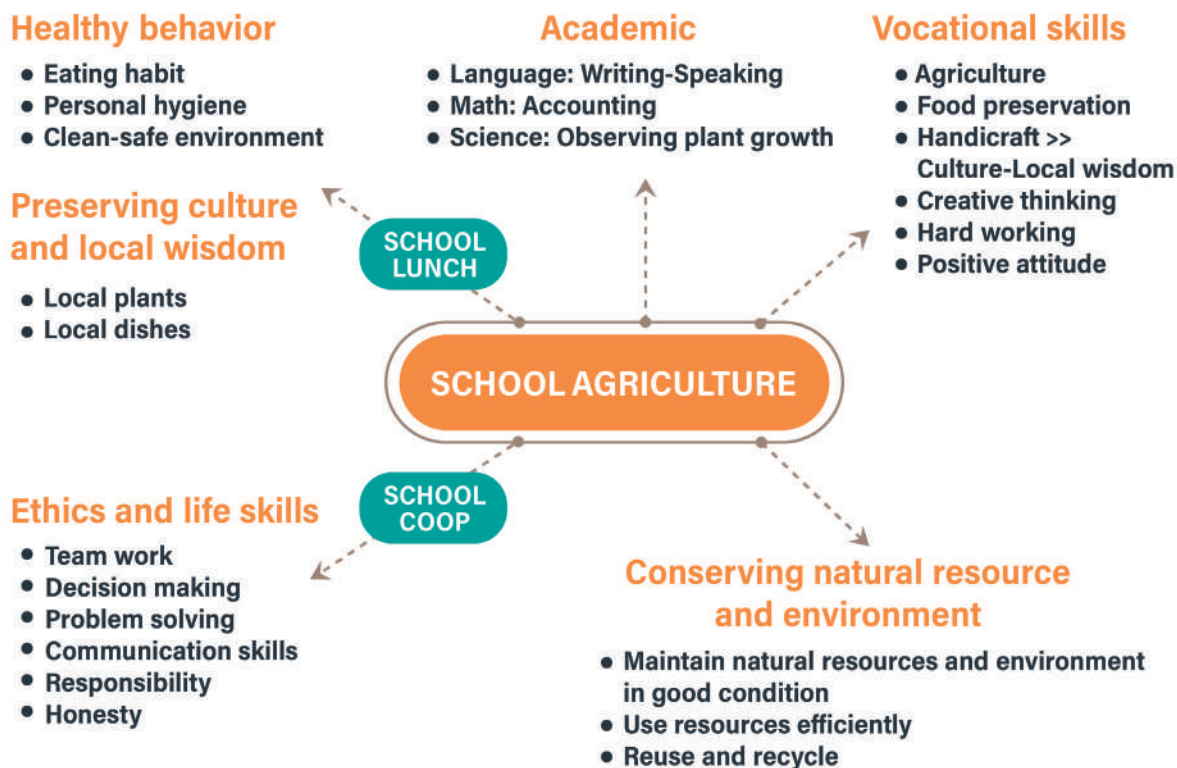
- (iii) children acquire knowledge and skills in producing safe and nutritious food through sustainable agriculture with appropriate technology to conserve the environment such as crop rotation, the use of bio-fertilizer and non-chemical pest control, medicinal plants and their applications, that can be transferred to their homes and used in their future careers
- (iv) children gain awareness of plant cultivation and propagation, which foster kind and gentle minds in children
- (v) children obtain vocational training in agricultural product processing and preservation, including accountancy control and cooperative systems
- (vi) children acquire a positive attitude towards hard work and problem solving
- (vii) children acquire knowledge of natural science and physical education and health are promoted
- (viii) children learn about environmental conservation: they recognize the importance of environmental resources such as soil, water, and forests, and understand the negative effects of illegal tree felling
- (ix) children gain access to sources of information for additional knowledge and contact with government institutions for further support

Over time, **Agriculture for School Lunch** has expanded from a small experimental project to cover other aspects of quality of life development such as health, hygiene, quality education, cooperative principles and values, vocational skills, environmental conservation, and cultural preservation. The aim of her development work has also shifted from a focus on agriculture for better nutrition to **a holistic development** – to enhance the potential of children and youth in a balanced manner so that they grow up to be productive members of their communities and the nation. Balanced manner means that children acquire academic knowledge necessary for their lives and for further learning (Intellectual education or Putti-suksa). They have a sense of ethics and morality, they are honest with themselves and others, are responsible for their duties, and are conscious of public benefit (Moral education or Jariya-suksa). They also develop vocational skills, creativity, a positive attitude towards work, and a good work ethic (Manual education or Hatta-suksa). Last but not least, they have good health, eat a balanced diet, exercise properly, and develop healthy hygienic practices (Physical education or Pala-suksa).

In undertaking actions, **a child-centered principle** is implemented. Her Royal Highness believes that sustainable development must start with the empowerment of people. Therefore, children participation is very important. Children are assigned to perform all kinds of development activities. Through these activities, they acquire knowledge, skills, and positive attitude. This process, known as **learning by doing**, is an important development tool of Her Royal Highness. An integrated approach through **a school setting** has been implemented by teachers and the community with joint support from key sectors, such as education, agriculture, health, and local administrations. Schools become effective settings because they are places with access to many children at school age of the community, facilitating the operations. At schools, teachers are key people who can transfer knowledge to children, enabling them to develop knowledge and skills. In addition, schools are easily accessible for the community and thus can become sources of learning for the community. **Community participation** is also crucial. Parents and other community members are encouraged to participate in school activities. Knowledge and technology are then transferred to families and communities and used for further development. This, in turn, helps strengthen the community, making it more self-reliant, improving its quality of life, and contributing to sustainable development.

The following diagram shows various knowledge and skills that children can develop as they are working on school agriculture. The Agriculture for School Lunch Project is a starting

point of overall children and youth development. It acts as a connection point to other development activities, which can help children self-develop in a balanced manner.



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