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DEPARTMENT OF AGRICULTURE
Ministry of Agriculture and Livestock
Royal Government of Bhutan
Tashichhodzong, Thimphu: Bhutan



Peri Urban and Urban Farming

Action Plans for 13th FYP

**Agriculture Production Division
Department of Agriculture
Ministry of Agriculture and Livestock**

March 2024

1. Project Profile

Project Title	: Promotion of Urban and Peri Urban Farming (PUUF)
Proposed Project Budget	: Nu. 20 million
Project Duration	: Five Years
Start Date	: July 2024
End Date	: June 2029
Project Location	: Urban Towns (Thimphu, Paro, Chukha, Sarpang, Samtse, Samdrupjongkhar, Tsirang, Tashigang, Mongar, Bumthang, Punakha, Wangdue)
Implementing Agency	: Department of Agriculture, Thimphu and respective Dzongkhags.

1. Background

Agricultural farming holds significant importance in Bhutan, remaining a predominant occupation for the majority of its population. Bhutan being landlocked country depends largely on farming with 51% of its total population. However, with the trend of modernization about 44.4% of population has shifted to urban areas making import driven population in the towns and cities (FAO 2023) resulting 8.2% of population below poverty rate as per Bhutan multi-dimensional index 2022. In the fiscal year 2022, agriculture accounted for 14.7% of the GDP. The crop sector constituted 6.8% of the agricultural GDP, with livestock and forestry contributing 5.3% and 2.6%, respectively (NSB, 2023).

The recent experience with COVID-19 pandemic and its impact such as restriction on imports made the lives of the people, particularly the poor and vulnerable people living in urban more difficult given the lack of accessibility and affordability to fresh fruits and vegetables thereby exacerbating poverty.

Therefore, the government of Bhutan want to take advantage of the pandemic crises and venture into intensive high value vegetable production program in urban and peri urban areas by (re)engaging laid-off employees and unemployed youths. The severely impacted sectors such as the Tourism Council will also help the Department of Agriculture (DoA) in the selection of laid-off employees who really need support and opt for vegetable production. The interested youths, women and other unemployed people will report to DOA, where they will be formed into groups, or they could form their own groups and get registered. These groups will be responsible for operating and managing the vegetable farms in 15 different locations, covering a total of 65 acres.

The government will encourage group farming. These people have no prior experience in farming – they were employees of private sectors (tourism, hotels) or unemployed. Therefore,

hands on training from land preparation until harvest and post-harvest handling, including record keeping and marketing, will be provided. The capacity building of youths will scale up with international experts imparting training on commercial level production of bio pesticides and fertilizer in the country; application of apps-driven drip irrigation, hydroponics, and aquaponics; and the concept of crop management following the value chain system, including marketing and accounting.

Towards the end of the season and before harvest, the project will coordinate a demonstration on improved vegetable production technologies for other urban and peri-urban dwellers, particularly for unemployed youths. The project sites will be like demonstration plots so that they inculcate the importance of urban farming, gradually building a pride in engaging in urban agriculture.

These laid off employees and unemployed youths may not show keen interest in conventional farming technologies that require physical toil. Thus, the project should focus on making the urban farming cultivation more fun and profitable with the adoption of technology. The project needs to procure and provide the first-time growers with essential farming equipment, greenhouse technology, irrigation facilities, seeds, manure, bio pesticides, mulching materials, and regular capacity development program. While there could be other technological options, for instance, in mulching, but the use of plastic sheets is the best option for the project in an emergency. With the upcoming formal Gyalsung Training Program by 2024, many motivated youths in farming may venture into agriculture stream, who could take up such urban and peri urban farming at a commercial scale with a provision of some financial and technical supports.

2. Objectives

The project envisages in achieving the following specific objectives:

- Contribute the production of nutritious and high value vegetables.
- Develop and use of barren land in urban and peri urban areas into beautiful farms.
- Engage and create employment to youths, women and unemployed in farming supporting their livelihood

3. Scope of the Project

Due to accepted phenomenon of rural urban migration, youths are moving to towns and urban centres in search of better opportunities and many lands up in a nightmare, with lots of social issues and difficulties. There are also many barren lands both registered and state land within and periphery of the city. Such land can be used in gardening as a short-term investment that

adds returns from the land and keeps city aesthetically beautiful and engage youths more meaningfully if they are supported and trained. Such ventures not only cause the raising social issues but also contributes many burning issues of food and nutrition, employment and greener city road maps. Youths and groups in urban centres can easily adopt the modern technologies to produce high value crops such asparagus, strawberry mushroom and leafy vegetables (salads) using farming, hydroponics, aeroponics and protected farming.

4. Project Location

The project sites are focussed on urban centres. The land can be both private, Dratshang (land belonging to the Central monastic body) and leased state land for agreed period between users and owners in the vicinity of the peri-urban and urban centres, preferably operated by women or youths' groups. Schools, and institutions may include themselves to avail the facility of urban and peri urban farming initiatives.

5. Implementation Modality

The proposed PUUF farms will be encouraged in all the major Thromdes (municipalities) of 20 Dzongkhags based on the initiatives of the Dzongkhags concerned, proposed by Dzongkhag beautification unit and Dzongkhag Agriculture Office. However, the major cities viz, Thimphu, Paro, Chukha, Haa, Sarpang, Samtse, Tsirang, Punakha, Wangdue, Samdrupjongkhar, Mongar, and Tashigang will be focussed based on the project mode.

6. Sustainability Strategy

The initiative is developed and integrated in the Ministry's 13th FYP based on the positive impact the urban farming had on the people, particularly the urban residents, through the implementation of FAO supported Accelerated recovery from COVID-19 pandemic through Digitalization of Peri-urban and Urban Farming (PUUF) during the COVID19 pandemic.

The urban agriculture farms especially operated by youth and women groups presents a long-term opportunity for enhancing agricultural production thereby contributing towards achieving national food security and nutritional requirements. This program will also play a crucial role in meeting the food requirements of 5 Gyalsung Academies (National Academies), that will host thousands of students. Besides, for the sustainability of this initiative, it is vital to integrate modern technologies, engage community and explore innovative financing mechanisms. One time supports will be provided on a cost sharing basis for the first establishment farming business and thereafter the groups will have to sustain from the revenue generated therein. A basic training on modern production technologies, business development, record keeping and investment analysis. These technical support programs must be incorporated into the existing Dzongkhag agriculture programmes.

To address potential market issues in the future, the Department of Agricultural and Marketing Co-operatives will be one of the important stakeholders to explore both domestic and export markets. Regular monitoring and evaluation of the program will be put in place to ensure smooth management and sustained success of the farm.

7. Monitoring and Evaluation

The Department of Agriculture through the coordination program will oversee the coordination of project monitoring and evaluation. However, gewogs/Dzongkhags will provide day-to-day field monitoring and technical advice as and when required.

8. Result Matrix

Results	Indicators	Baseline (current value)	Target	Data source	Reporting Frequency	Reporting To
Project Objectives 1	Establish advanced agriculture technology demo fields as commercial scale					
Outcome	Enhanced adoption of advanced agricultural technology					
Output. Establishment of farms with advanced agriculture technologies	Numbers	20	20	Progress report and field validation	Quarterly basis	Annual report to DoA
Project Objectives 2	To supplement vegetables for food and nutrition security of urban dwellers					
Outcome	High value Vegetables/strawberry/mushroom production enhanced					
Output: Production of vegetables/strawberry/mushroom from urban farming	MT	100	120	Progress report and field validation	Quarterly basis	Annual report to DoA
Fallow land conversion to farming with high value vegetables	Ac	100	100	Progress report with name list	Annual	Dzongkhag and DoA

9. Overall Project Cost (Nu. million)

Sl.No	Details	Nos	Amount (Nu)
1	Site/ land development/identification	20	4.0
	Groups/site identifications		
2	Establishment of required structures like Green House, smart irrigation and automation	100	5.0
3	Purchase of farm Machineries and Tools/seeds	50	5.0
4	Human capacity development	500	3.0
5	PMU cost that includes monitoring and evaluation	10	3.0
Grand total (Nu)			20.0

10. Work Plan

Sl.No	Activities	Execution plan 2024 - 2029	
		Start	End
1	Group formation and proposal approval		
2	Land identification preparation		
3	Implementation of activities		
4	Release of funding supports		
5	Supply of inputs and materials		
6	Monitoring and evaluation		
7	Progress and reporting		