



## Project Proposal

Title	:	Dissemination of Vermicompost Application to Farmers in States and Divisions of Myanmar
Department	:	Myanma Agriculture Service
Estimated Duration	:	2 years (2010-2011)
Estimated Budget:	:	USD 2471100
Executing Agency	:	Agricultural Extension Division
Funding Agency	:	to be proposed possible funding agencies from UN and others donor in collaboration with CIRDAP Technical assistance

### Dissemination of Vermicompost Application to Farmers in States and Divisions of Myanmar

#### 1. Rationale

Farming practices in Myanmar is mimic to natural ecosystems and farmers are willingly to adopt widely use of natural resources, natural cycles (waste become inputs) due to poor investment. To disseminate sustainable farming practices and environmental friendly agricultural systems, application of vermin-compost is one of the sustainable measures with low cost technology to get desirable productivity.

#### 2. Specific Objectives

- (1) To disseminate vermin-compost application widely for every village tract of Myanmar.
- (2) To increase yield and quality of crops by using vermin-compost
- (3) To substitute the requirement of inorganic fertilizers to some extent

#### 3. Implementation Activities

In States and Divisions, depending upon the cultivable area of rice and population of farmers, the vermin-culture tanks will constructed in every village tract. The project implementation procedures will be conducted as follows:

- (1) Construction of tanks for vermin-culture
- (2) Collection and multiplication of vermi-worms
- (3) Collection of farm wastes and cow/chicken dungs
- (4) Production of vermin-compost and vermin-solution
- (5) Apply vermin-compost conducted by farmers to their rice/vegetable fields
- (6) Training on wide spread knowledge for application of vermin-compost
- (7) Record yield and quality of crop by using vermin-compost

#### 4. Expected Outputs

- (1) Soil fertility will improve due to the decomposition and activity of vermi-worms
- (2) Vermicompost could be applied with low cost and easy to handle by farmers

- (3) Reduction of inorganic fertilizers will occur after wide dissemination of vermin-compost application in every village tracts

## 5. Estimated Cost

Vermiculture tanks need to be constructed based on the sown area of crop, farmer's population of each village tracts in States and Divisions.

**Table: Estimated cost for construction of vermiculture tanks for village tracts of Myanmar**

No	State/Divisions	Sown Area (Ac)	Farmers	Village Tract	Vermiculture Tank No.	Cost (USD)
1	Kachin	581735	83462	462	462	69300
2	Kayar	110154	36651	89	89	13350
3	Kayin	646471	102417	396	396	59400
4	Chin	136095	50615	411	411	61650
5	Sagaing	2283244	506678	1838	1838	275700
6	Taninsary	479206	68749	297	297	44550
7	Bogo (East)	1946226	220582	734	734	110100
8	Bago (West)	1465343	103656	715	715	107250
9	Magwe	943728	576535	1606	1606	240900
10	Mandalay	1212617	635538	1607	1607	241050
12	Rakhine	1237009	336299	4075	4075	611250
13	Yangon	1398974	122544	676	676	101400
14	Shan (South)	638095	20761	375	375	65270
15	Shan (North)	492629	94713	598	598	89700
16	Shan (East)	414584	159893	220	220	33000
17	Ayeyawaddy	4956055	433205	1963	1963	294450
<b>Total</b>		<b>19989530</b>	<b>3935348</b>	<b>16474</b>	<b>16474</b>	<b>2471100</b>

- Remark:** (1) The cost of building vermiculture tank (3x4x10)feet is calculated by USD 150/unit.  
 (2) Collection and multiplication of vermin-worms will be conducted by Myanmar Agriculture Service  
 (3) Farm waste and cow/chicken dung will be collected by farmers of each village tract.

## 6. Implementation Period

- 1<sup>st</sup> year- (2010 to 2011) - Construction of vermiculture tank, rearing of vermin-worms and training for farmers.  
 2<sup>nd</sup> year- (2011 to 2012) - Use of vermicompost into the field, wide utilization of compost and every village tracts  
 - Record yield and quality of products

CIRDAP

## Eco-tourism in Pakistan

### Present state of Eco-tourism and future direction:

Eco-tourism, also called "nature tourism", is a relatively recent phenomenon in Pakistan. Nature tourism is distinguished from mass tourism or resort tourism by having a lower impact on the environment and by requiring less infrastructure development. Ecotourism includes a wide spectrum of options, ranging from serious, scientific studies to casual visits to natural areas as weekend activities or parts of more general trips. The annual tourist arrivals for Pakistan are still limited to less than half a million people.. Pakistan possesses several tourist attractions of immense potential. The diverse geography, deserts and lush green valleys, white-water channels and, above all, its high mountains are the main ecotourism attractions of Pakistan. Despite these attractions, the growth of ecotourism in Pakistan has grown relatively slowly.

Tourism authorities in Pakistan have classified the following attractions as the most important assets for ecotourism in the country:

- a. The natural scenic beauty;
- b. The Thar Desert of Sindh and Cholistan Desert of Punjab;
- c. The majestic mountain ranges for trekking and mountaineering;
- d. The lakes, glaciers and ski slopes;
- e. The facilities for marine sports and white-water rafting;
- f. The national parks (e.g. Khirthar National Park in Sindh, Lal-Sohanra National Park in Punjab, Hazar Gangi National Park in Baluchistan and Margalla Hills National Park in Punjab, etc.);
- g. The flora and wild life; and
- h. The caves and mines.

Eco-tourism in Pakistan, as elsewhere is linked to attractions created by a rich and varied environment. With the highest and most famous mountain peaks of the world a wide range of climatic zones with unique and rare flora and fauna ,and a great variety of unique hill and mountain cultures, deserts, the tourism potential of Pakistan is beyond dispute.

At present, domestic as well as international tourism is centred around the country's natural attractions in the Gilgit, Skardu, Chitral, Swat and Kaghan Valleys and the hill stations of Muree and Galiat. The three mountain ranges in the northern areas, the Himilaya, Hindu Kush and Karakorum ranges and the northern areas beckon both sophisticated and ordinary travellers equally. There are 730 peaks over 6,000 meters high; only 43 have been climbed. There are five peaks above 8,000 meters, including K-2, Nanga Parbat, Gasherbrum-I and II and Broad Peak. The Gilgit and Skardu valleys also have the largest glaciers outside the Polar Regions. These natural assets make these valleys a paradise for adventure-oriented ecotourism. Every year in the summer season, a large number of mountaineers, trekkers and nature tourists visit these valleys. The legendary Karakorum highway, which passes through the Gilgit and Hunza Valleys, also attracts a large number of foreign and domestic eco-tourists. Domestic tourism, however, is concentrated in the Muree, Swat and Kaghan Valleys.

Similarly in Sindh tourist resorts have been developed around Khinger, Manchar and Halleji lakes. In the Punjab Cholistan Desert near Bahawalpur is another attraction.

Eco-Tourism offers a promising adaptation strategy, which can generate much needed resources for the adaptation process, building upon the strengths of the region. Tourism offers a promising avenue for turning the mountain specificities that are generally considered constraints to development – remoteness, difficult access, wilderness, insular cultures, and subsistence lifestyles – into economic opportunities. Being labour intensive and requiring relatively low levels of capital and land investment, tourism can yield significant benefits in remote and rural areas where traditional livelihoods are under threat.

Tourists in addition to hiring a large number of local people as guides and porters,

generate income for other logistics i.e. transports, food and accommodation. During 2007-08 Eco-tourism generated US\$ 0.064 million in royalty and trekking fee in Pakistan. Eco-tourism has greatly helped in poverty alleviation in the far flung areas of Pakistan where tourist resorts were established by Pakistan Tourist Development Corporation in eighties and nineties. Remote areas like Khaplu, Gupis, Phandar, Sost and Hunza in the Northern Areas, Malam Jabba, Saidu Sharif and Kalaam in Swat, and tourist complexes around chitral greatly helped in the emancipation of the rural poor.

### **Suitable areas for development of eco-tourism in the Country**

#### **a. National Parks Tourism:**

In Pakistan there are 14 national parks, 99 wild life sanctuaries 96 game reserves etc. The first national park, Lal Suhanra of Bahawalpur district was formally declared in 1972. The park consists of irrigated forest plantations (20,974 acres), desert branch pond (4790 acres) and Cholistan Desert (51726 acres) for a total of 77, 780 acres. These parks are established to protect existing wildlife and vegetation; reintroduce extirpated species; rehabilitate wildlife habitat; create education/research and recreational facilities for local and foreign tourists.

Kirthar National Park achieved its protected status 1973. Established in the Dadu district of Sindh, this 466, 000 acre reserve provides protection for a fine herd of ibex about 60 miles north of Karachi. Other large game species such as Indian gazelle and Urial sheep have increased their populations within the park. A management plan has been drawn up for the Park with the assistance of the World Conservation Union (IUCN). However, fiscal restraints and other priorities have largely precluded full implementation of the plan.

Khunjerab North of Hunza, Gilgit Agency, became the third National Park in 1975. This area has been successful in providing protection for the Marco Polo's sheep, Blue Sheep, Snow Leopard, Snow Cock, Snow Partridge and other high mountain species.

Hazar Gangi National Park in Balochistan and Margalla Hills National Park are great attractions for tourists.

#### **b. Mountain Tourism:**

Natural assets like mountains make these areas a paradise for eco-tourism. Every year in the summer season, a large number of mountaineers, trekkers and nature tourists visit Pakistan. The legendary Karakoram Highway, which passes through Gilgit and Hunza Valleys, also attracts a large number of foreign and domestic eco-tourists. Domestic tourism, however, is concentrated in the Muree. Swat and Kaghan Valleys, The number of tourists seeking recreation and adventure in these mountains is gradually increasing.

The mountain environment has been found to be very fragile and susceptible to disruption, not only by foreign tourists but also by local people engaged in tourism related work. The number of nature tourists, roughly 50,000 per year, is not very large but they hire a large number of local porters, helpers and guides and in narrow valleys during the same period they all put pressure on natural resources.

Although there have been a few clean-up expeditions, there are no long term disposal systems to deal with the waste generated mountaineers and trekkers in the region. In general, there is lack of awareness on environmentally sensitive mountaineering and trekking techniques, proper waste management and the use of alternative energies. There are also no environmental guidelines for local guides, porters, tour operators or hoteliers.

#### **c. Coastal Tourism:**

The coastal areas of Pakistan comprise of some parts of Sindh and Balochistan provinces. The beaches of Karachi i.e. French Beach, Clifton Beach, etc., despite being famous picnic spots and arena for water sports including scuba diving and yachting facilities: are also rich of natural resources and inhabitants. On moonlit nights during the months of September and October, giant green turtles lumber ashore to lay eggs in the sand. The turtles are under the protection of Wild Life Management Board. Others are jelly fish, lobsters and prawns.

Similarly, the coastal areas of Balochistan province e.g. Makran, Gwadar, Jiwani and Pasni are also full of ecological treasures.

d. **Lakes Tourism:**

The lakes of Pakistan are also great sanctuaries for wild life i.e. birds especially. The major sanctuaries lakes are Haleji Lake, Manchar Lake, Khinger Lake and Kalri Lakes in Sindh Province. Most of birds: including 75 species of water fowl, alone find sanctuary here during the winter time. Other birds flamingoes, pelicans, purple gallinules, pheasant and tailed jackanases are found there. Lake Saiful Maluk in Kaghan Valley and Kalar Kahar near Islamabad are great tourist attraction.

e. **Deserts Tourism**

The Thar Desert of Sindh, Cholistan Desert in Punjab are great attractions for Car Rallies and Hunting .

**Challenges faced by Eco-tourism in Pakistan:**

- a. Unfortunately, tourism in most of the areas has been allowed to develop in an unplanned manner. There has been unchecked growth of small hotels. The number of rooms in the valleys and mountainous areas has more than tripled during the last ten years. Sadly, most of small hotels and lodges have been built on the banks of streams or on reclaimed land on slopes where trees have had to be cut down. In the absence of proper land utilization plans, sewage treatment system, the growth of tourism has brought negative effects in these places. Most of the hotels, motels and residential colonies established near streams discharge untreated sewage directly into streams causing severe pollution, which adversely affects human and animal life. Thus tourism is now criticized as a major cause of environment degradation.
- b. Swat Valley had numerous motels and mushroom of small hotels that have been badly affected by deteriorated law and order situation. Millions of people have been rendered jobless. A gigantic effort will be required for the restoration/revival of tourist facilities in Swat, known as **Switzerland** of Pakistan, during rehabilitation phase after clean up of militants in the area.

**On-going project(s) on Eco-tourism. if any, in the country**

Tourism essentially is a private sector activity. Government promote a nature based tourism which does not put pressure or deteriorate natural assets and their quality. Ministry of Tourism supports tourism development activities surrounding valleys, lakes and mountains, PTDC motels particularly in Khaplu, Satpara Lake, Phandar, Rama Lake, Gupis, Mastuj, Booni. Ayubia, Besham, Hunza, Sust etc. help in promoting nature tourism.

(i) Following Eco-tourism sites have been identified:

- (a) Bar Valley, Chapursan Valley, Passu, Shimshaal Valley in district Kohistan, Kurmat valley in Upper Dir, Kaghan Valley, Neelum Valley in Azad Kashmir, Ziarat Valley in Balochistan, Gorakh Hill Station in Sindh and Fort Munro in Punjab.
- (b) Indus River, Blind Dolphin, Marine Turtles and Mangrove Forests.
- (c) Coastal areas of Balochistan including Gaddani Beach.
- (d) Tourist resort at Khanpur Dam by NWFP Government
- (e) Beautiful tourist destinations in Lipa, Sharda, Neelum, Somani and Kel Vallies of Azad Kashmir.

(ii) Development of a Tourist Facility at Gorakh Hills. It was Mohtarma Benazir Bhutto's desire to develop a tourist resort at Gorakh Hills located in District Dadu – Sindh (Details Annex-1).

The Government of Sind has allocated some Rs.200 million for the development of a tourist facility at Gorakh Hills. As at present there is no economic activity in the Gorakh Hills and the area around is not visited by people because of its remoteness and lack of facilities. The proposed project would provide an opportunity of demonstrating a good model of eco-tourism development in the country. It is suggested that CIRDAP should provide assistance to NCRD to

undertake a pilot project for “preservation of water” of Hill Torrents for agriculture. This project if launched will be a trend setter for bigger water preservation projects resulting in development of agriculture in barren Hills of the area.

Following steps are under consideration to promote Eco-tourism in Pakistan by Ministry of Tourism:

- a. To organize photographic, essay competitions, workshops and awareness seminars on regular basis.
- b. A brochure on Eco-tourism in Pakistan.
- c. A media campaign on eco-tourism.
- d. Direct contact with International Tourist Companies for group tours.

**Possibility of NCRD being the link institution of CIRDAP to contribute to the development of Eco-Tourism in Pakistan**

NCRD has not been involved in the promotion of Eco-tourism in the past. However, NCRD being Link Institution of CIRDAP can help in promotion of eco-tourism by creating awareness through multiple means in the following areas:

- (i) The environmental impact assessment based sequential, complementing and integrated focusing on Eco- tourism.
- (ii) Develop guidelines for development of nature tourism for built in effective monitoring programme complete with environmental impact assessment to identify and protect the impact of bio-geophysical environment, community well being and effectiveness of environmental protection policies, projects and procedures.
- (iii) Develop specific core programme related to conserving the environment and natural resources which are either lacking in Pakistan or impractical and without an appropriate time-frame for implementation.
- (iv) People in public and private sectors need to be made more aware of their interest in conserving environmental resources and using them more wisely, and be motivated to implement conservation policies and programmes with full commitment. CIRDAP may help in offering material for creating awareness. It is proposed that CIRDAP and NCRD should jointly organize a 2-3 days national workshop in Islamabad for sensitizing the people and media in eco-tourism and policy makers to allocate funds for the purpose and to identify policy gaps for appropriate actions which are needed to promote eco-tourism in Pakistan. In the proposed initiatives, the role of CIRDAP is critical as it can bring in regional experience.