



Community conservation of *Apis cerana* for increasing agriculture yields in Bamyan

Chapters to this programme

- Agriculture improvement
 - The value of bees for pollination is significantly greater than their value for hive products.
- Livelihood and business development (honey, wax, equipment, etc.)
- Curriculum and capacity development
- Awareness raising campaigns
- National institutional development (MAIL Beekeepers Association and Bamyan University)
- Research and development on pollinators – Best breeding practices, disease control,
- Women's empowerment
- Biodiversity conservation through pollinator diversity conserved

Increase in productivity through pollination

1. Fruit productivity

Table 1: Impact of honeybee (*Apis cerana*) pollination on fruit productivity (Himachal Pradesh, India and Kathmandu Valley, Nepal)

Crop	Increase in fruit set (%)	Increase in fruit weight (%)	Increase in fruit size (length, diameter) (%)
Apple	10	33	15, 10
Peach	22	44	29, 23
Plum	13	39	11, 14
Citrus	24	35	9, 35 Premature fruit drop decreased by 46%, juice increased by 68%, and sugar content in juice by 39%
Strawberry	112	48	Misshapen fruits decreased by 50%

Source: Partap 2002

2. Vegetable seed production

Table 2: Impact of honeybee (*Apis cerana*) pollination on vegetable seed production (Kathmandu Valley, Nepal)

Crop	Increase in pod set (%)	Increase in seed set (%)	Increase in seed weight (%)
Cabbage	28	35	40
Cauliflower	24	34	37
Radish	23	24	34
Broad leaf mustard	11	14	17
Lettuce	12	21	9

Source: Partap 2002

3. Average increase in crop production

Table 3: Average increase in crop production from honeybee pollination

Crop	Increase in production (%)
Alfalfa	65
Buckwheat	39
Coriander	35
Cotton	28
Cucumber	11
Cucurbits	25
Flax	35
Grape	29
Linseed	19
Rape	30
Red clover	82
Sainfoin	60
Tree and bush fruit	35

Source: Soldatov 1976; cited in Free 1993

Reasons for pollinator decline

- Habitat reduction
- Monoculture
- Pesticide use
- Competition from *Apis mellifera*
- Weak national institutions