

## CONSULTANCY GUIDELINES FOR POLLINATOR CHECKLIST

List a total of 100 of the most important pollinators in the region. They can be present in one, two or all three of the project countries, based on their perceived importance as pollinators of crops and species of importance for forestry, biodiversity and ecosystem services. The species listed can be widely distributed in one or more of the three countries in the region. The species listed should represent the diversity of pollinator groups in the region (bees, flies, wasps, moths/butterflies, beetles, ants, etc, and if vertebrate pollinators). The species listed should pollinate a representative range of animal-pollinated species in the region (see Annex 1 adapted from a list of animal pollinated crop species from Aizen *et al.*, 2009). An MS Excel template is provided with required fields to be completed.

### Scientific Names

1. All taxa (with the exception of undescribed taxa) must be listed in accordance with the appropriate international nomenclatural codes and must be currently accepted names. Standard taxonomic checklists must be used wherever possible for names. For many groups, no standards are available, or there may be a valid reason for adopting another treatment. In such cases, the taxonomic treatment followed is usually indicated and if not one of the standards (as followed by IUCN in their Red Listing process), the reference is cited in full and a reason for the deviation may be provided in the 'Notes' section for each species.
2. The following higher level taxonomic information must be provided for each taxon assessed; Phylum, Class, Order and Family.
3. The authorities for all specific and infra-specific names must be provided wherever possible following the appropriate nomenclatural rules. This includes the date of publication.
4. Any taxonomic problems or issues must be documented under a 'Notes' section for each species
5. Appropriate synonyms should be listed.
6. The names of the phyla and classes used in general follow Margulis and Schwartz (1988). The following paragraph notes the main taxonomic sources used.

### Invertebrates

Parker (1982) has generally been followed for nomenclature at class, order and family level. There is a lack of widely accepted class-level checklists for invertebrates, although there are a growing number of global checklists being made available via the Internet (e.g., [Arachnida Catalog](#), [Coleoptera](#), [Global Lepidoptera Names Index](#), [World List of Odonata](#) and [Orthoptera Species File Online](#)). The [Integrated Taxonomic Information Service \(ITIS\)](#) web site developed jointly by the US Departments of Agriculture and US Geological Survey is a useful source for a number of global checklists covering a wide range of taxonomic groups including many invertebrates.

### Birds

The nomenclature to be used for birds should follow that provided by BirdLife International. For details about the BirdLife system see: <http://www.birdlife.org/datazone/species/taxonomy.html>.

### **Mammals**

The nomenclature to be used for mammals should follow that of Wilson and Reeder (2005) (see also <http://nmnhgoph.si.edu/msw/>)

### **Reptiles**

The nomenclature to be used for birds should follow that provided by the TIGR Reptile Database compiled by Peter Uetz and made available on the World Wide Web at: <http://www.reptile-database.org/>.

### **Common Names**

Commonly used local and English common names must be listed with an accompanying note on the region, country or countries in which this common name is used.

### **Reference**

Aizen, M.A., Garibaldi, L.A., Cunningham, S.A. and Klein, A.M. (2009). How much does agriculture depend on pollinators? Lessons from long-term trends in crop production. *Annals of Botany*, 103, 1579-1588.

Below is a sample from Commodity crops commonly grown in the developing world known to be pollinated by animals (adapted from Aizen et al. 2009). The Pollinator dependence key is; 1 (little), 2 (modest), 3 (high), 4 (essential).

	<b>Species / Species Group</b>	<b>English Common Name</b>	<b>Pollinator dependence*</b>
	<i>Arachis hypogaea</i>	Groundnut, Peanut	1
1	<i>Cajanus cajan</i>	Pigeon pea, Cajan pea, Congo bean	1
2	<i>Capsicum annuum</i> , <i>C. frutescens</i> , <i>Pimenta dioica</i> (syn. <i>P. officinalis</i> , <i>P. dioica</i> )	Chile pepper, Red pepper, Bell pepper, Green pepper, Allspice, Pimento	1
3	<i>Carica papaya</i>	Papaya	1
4	<i>Carthamus tinctorius</i>	Safflower Seed	1
5			

	<b>Species / Species Group</b>	<b>English Common Name</b>	<b>Pollinator dependence*</b>
	<i>Citrus aurantifolia</i> , <i>C. aurantium</i> , <i>C. bergamia</i> , <i>C. grandis</i> , <i>C. limetta</i> , <i>C. limon</i> , <i>C. maxima</i> , <i>C. medica</i> (var. <i>cedrata</i> ), <i>C. myrtifolia</i> , <i>C. paradisi</i> , <i>C. reticulata</i> , <i>C. sinensis</i> , <i>C. unshiu</i> , <i>Fortunella japonica</i>	Bergamot, Chinotto, Citron, Clementine, Grapefruit, Kumquat, Lemon, Lime, Mandarine, Orange, Pomelo, Tangerine	1
6	<i>Diospyros kaki</i> , <i>D. virginiana</i>	Persimmon	1
7	<i>Elaeis guineensis</i>	Oil palm fruit	1
8	<i>Linum usitatissimum</i>	Linseed, Flax	1
9	<i>Lycopersicon esculentum</i>	Tomato	1
10	<i>Phaseolus</i> sp., <i>P. vulgaris</i> , <i>P. lunatus</i> , <i>P. angularis</i> , <i>P. aureus</i> , <i>P. mungo</i> , <i>P. coccineus</i> , <i>P. calcaratus</i> , <i>P. aconitifolius</i> , <i>P. acutifolius</i>	Bean dry like Kidney bean, Haricot bean, Lima bean, Azuki bean, Mungo bean, String bean	1
11	<i>Vigna</i> sp., <i>V. unguiculata</i> , <i>V. subterranean</i> (syn. <i>Voandzeia subterranea</i> ),	Bean	1
12	<i>Phaseolus</i> sp. <i>Vigna subterranea</i> (syn. <i>Voandzeia subterranea</i> )	Bambara bean, Bambara groundnut, Earth pea	1
13	<i>Vigna unguiculata</i>	Cowpea, Blackeye pea, Blackeye bean	1
14	<i>Abelmoschus esculentus</i>	Okra, Gumbo	2
15	<i>Brassica alba</i> (syn. <i>Sinapis alba</i> , <i>B. hirta</i> ), <i>B. nigra</i> (syn. <i>Sinapis nigra</i> )	Mustard Seed	2
16	<i>Brassica napus</i>	Rapeseed, Oilseed rape, Canola	2
17	<i>Castanea sativa</i>	Chestnut	2
18			

	<b>Species / Species Group</b>	<b>English Common Name</b>	<b>Pollinator dependence*</b>
19	<i>Cocos nucifera</i>	Coconut	2
20	<i>Coffea arabica, C. canephora, C. liberica</i>	C. Coffee	2
21	<i>Ficus carica</i>	Fig	2
22	<i>Fragaria</i> sp.	Strawberry	2
23	<i>Glycine max, G. soja</i>	Soybean	2
24	<i>Gossypium hirsutum, G. barbadense, G. arboreum, G. herbaceum</i>	C. Cotton seed	2
25	<i>Helianthus annuus</i>	Sunflower seed	2
26	<i>Sesamum indicum</i>	Sesame seed	2
27	<i>Solanum melongena</i>	Eggplant, Aubergine	2
28	<i>Vicia faba</i>	Broad Bean, Faba bean, Field bean, Horse bean	2
29	<i>Amygdalus communis</i>	Almond	3
30	<i>Anacardium occidentale</i>	Cashew nut, and Cashew-apple	3
31	<i>Cola nitida, C. vera, C. acuminata</i>	C. Cola nut, Kola nut	3
32	<i>Cucumis sativus</i>	Cucumber, Gherkin	3
33	<i>Elettaria cardamomum, Myristica fragrans</i>	Cardamom, Mace, Nutmeg	3
34	<i>Fagopyrum esculentum</i>	Buckwheat	3
35	<i>Malus domestica</i>	Apple	3
36	<i>Mangifera indica</i>	Mango	3

	<b>Species / Species Group</b>	<b>English Common Name</b>	<b>Pollinator dependence*</b>
	<i>Persea americana</i>	Avocado	3
37	<i>Prunus armeniaca</i>	Apricot	3
38	<i>Prunus avium, Prunus cerasus</i>	Sour cherry, Sweet cherry	3
39	<i>Prunus domestica, P. spinosa</i>	Plum	3
40	<i>Prunus persica, Persica laevis</i>	Peach, Nectarine	3
41	<i>Pyrus communis</i>	Pear	3
42	<i>Rubus idaeus, R. fruiticosus, R. chamaemorus, R. flagellaris, R. trivalis</i>	Raspberry, Blackberry, Cloudberry, Northern dewberry, Southern dewberry	3
43	<i>Bertholletia excelsa</i>	Brazil nut, Para nut, Cream nut	4
44	<i>Citrullus lanatus</i>	Watermelon	4
45	<i>Cucumis melo</i>	Cantaloupe, Melon	4
46	<i>Cucurbita maxima, C. mixta, C. moschata, C. pepo</i>	Pumpkin, Squash, Gourd, Marrow, Zucchini	4
47	<i>Theobroma cacao</i>	Cocoa	4
48	<i>Vanilla planifolia, V. pompona</i>	Vanilla	4
49			