

# Glossary of Biosecurity Management<sup>†</sup>

## A

**Abiotic stress** (*Cekaman abiotik*) [Bio] Outside (nonliving) factors which can cause harmful effects to plants, such as soil conditions, drought.

**Absorbed dose** (*Dosis terserap*) [Bio] Quantity of radiating energy (in gray) absorbed per unit of mass of a specified target.

**Action research** (*Penelitian tindakan*) [Soc] (1) Kind of research methods that aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework; (2) a flexible spiral process which allows action (change, improvement) and research (understanding, knowledge) to be achieved at the same time. Action research is concerned to enlarge the stock of knowledge of the social science community. It is this aspect of action research that distinguishes it from applied social science, where the goal is simply to apply social scientific knowledge but not to add to the body of knowledge.

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<sup>†</sup>The compiler of the Glossary of Biosecurity Management is Professor Sang Putu Kaler Surata, one of the team members involved in authoring this book. The Glossary was prepared as a stand-alone publication in both English and Bahasa Indonesian languages in response to the lack of international clarity, consistency and information about terms related to biosecurity. The process and a great deal of detail about the Glossary and its preparation are contained in Professor Surata's Chap. 7 of this volume, and additional detail regarding translation aspects is found in Ms Jayantini's Chap. 8.

Due to its cross-disciplinary and often contested nature, the Glossary of Biosecurity Management draws on a wide range of sources. These are all been cited in the reference list immediately following the Glossary. These references appeared within the text of the Glossary in its original form so as interested readers can see precisely which and whose ideas and research was drawn on in each case. This version can be found at [http://ausindobiocom.net/ausindobiocom-archives/publications/book-collections/2010/07/bilingual-glossary-biosecurity-management/?preview=true&preview\\_id=1390&preview\\_nonce=8b2e2baa98](http://ausindobiocom.net/ausindobiocom-archives/publications/book-collections/2010/07/bilingual-glossary-biosecurity-management/?preview=true&preview_id=1390&preview_nonce=8b2e2baa98). However, the in-text component of the referencing has been deleted in the English version following here in the interest of clarity and readability, as well as to conform to a standard glossary format and style.

**Additional declaration (*Deklarasi tambahan*) [Bio]** A statement that is required by an importing country to be entered on a Phytosanitary Certificate and which provides specific additional information on a consignment in relation to regulated pests.

**Administration (*Administrasi*) [Com]** The practice of management and leadership.

**Adult stem cell (*Sel batang dewasa*) [Bio]** An undifferentiated cell found in a differentiated tissue that can renew itself and (with certain limitations) differentiate to yield all the specialized cell types of the tissue from which it originated.

**Advocacy (*Advokasi*) [Com]** Various strategies for influencing Decision making within organizations, government and private sector groups which can include lobbying, social marketing, public education activities, community organizing, media campaigns, signature campaigns, and other techniques.

**Aerobe (*Aerob*) [Bio]** A microorganism that grows in the presence of oxygen.

**Agroforestry (*Agroforestri*) [Bio]** (1) A system of permanent land use compatible with local cultural practices and ecological condition, by which both annual and perennial crops are cultivated simultaneously or in rotation, often in several layers, in such a way that sustained multiple-purpose production is possible under the beneficial effect of the improved edaphic and microclimate conditions provided by simulated forest; (2) a collective term of various form of integrated land use (forestry, agriculture, and/or livestock) exist in various hemisphere place, including in developing countries such as Indonesia.

**Agrosylvicultural systems (*Sistem agrisilvikultur*) [Bio]** Agroforestry system in which combining forestry component (woody plants) with the agriculture component (non-woody plant), for example multipurpose trees/shrubs on farmlands, shelterbelt, windbreaks, or soil conservation hedges.

**Agrosylvopastural systems (*Agrosilvopastura*) [Bio]** Combination of woody plants component (forestry) with the agriculture (annual crop) and livestock at same farm management unit, such as forest-gardens, home-gardens, and village-forest-gardens.

**Agroterrorism (*Agroterorisme*) [Bio]** The deliberate act of a person or group against the agricultural industry and/or food supply system, which could include the use of chemical or biological weapons.

**Adaptive capacity (*Plastisitas*) [Soc]** The degree to which the system expresses capacity for learning and adaptation; the degree to which the system is capable to self organization; the capacity of a system to experience shocks while retaining essentially the same function, structure, feedbacks and therefore identity.

**Alien species (*Spesies asing*) [Bio]** (1) Respect particular ecosystem, any species, including it seeds, eggs, spores and other biological materials capable of propagating that species, that is not native to that ecosystem; (2) a species, subspecies, or lower taxon occurring outside of its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could not occupy without direct or

indirect introduction or care by humans) and includes any part, gametes or propagule of such species that might survive and subsequently reproduce.

**Alien invasive species (*Spesies invasif asing*) [Bio]** An alien species which becomes established in natural or semi-natural ecosystems or habitat, is an agent of change, and threatens native biological diversity.

**Anaerobe (*Anaerob*) [Bio]** An organism that grows in the absence of oxygen.

**Animal (*Satwa*) [Bio]** All type of animal natural resource life in land, and/or water, and/or air.

**Antagonist (*Antagonis*) [Bio]** An organism (usually pathogen) which does no significant damage to the host but its colonization of the host protects the host from significant subsequent damage by a pest.

**Anthropogenic (*Antropogenik*) [Com]** Human-induced or human-caused, derived from the Greek root *anthropos* meaning “man”.

**Antibiotic resistance (*Resistensi antibiotik*) [Bio]** The ability of a microorganism to produce a protein that disables an antibiotic or prevents transport of the antibiotic into the cell.

**Antibiotics (*Antibiotika*) [Bio]** A class of natural and synthetic compounds that inhibit the growth of or kill other microorganisms.

**Antigen (*Antigen*) [Bio]** Any foreign substance, such as a virus, bacterium, or protein, which elicits an immune response by stimulating the production of antibodies.

**Antibody (*Antibodi*) [Bio]** An immunoglobulin protein produced by B-lymphocytes of immune system that binds to a specific antigen molecule.

**Antimicrobial agent (*Agen antimikrob*) [Bio]** Any chemical or biological agent that harms the growth of microorganisms.

**Area (*Kawasan*) [Bio]** An officially defined country, part of a country or all or parts of several countries.

**Area of low pest prevalence (*Kawasan dengan prevalensi hama yang rendah*) [Bio]** An area, whether all of a country, part of a country, or all or parts of several countries, as identified by the competent authorities, in which a specific pest occurs at low levels and which is subject to effective surveillance, control or eradication measures.

**Artificial insemination (*Inseminasi buatan*) [Bio]** The process in which male gametes, the spermatozoa, are collected and introduced artificially into the female genital tract for the purpose of fertilization.

**Asian flu ( $H_2N_2$ ) (*Flu Asia*) [Bio]** Influenzas are identified by the type of haemagglutinin ( $H_1-H_{15}$ ), which is an antigenic glycoprotein found on the surface of the virus and responsible for binding the virus to the host cell, and neuraminidase ( $N_1-N_9$ ), which is an antigenic glycoprotein enzyme found on the surface of the virus. A virulent

type of influenza,  $H_2N_2$  was first identified in China in late February 1957, the Asian flu spread to the United States by June 1957 where it caused about 70,000 deaths. After 1968,  $H_2N_2$  flu disappeared, but was maintained in laboratories for research purposes. Between October 2004 and February 2005, the College of American Pathologists (CAP), a professional body which sends unidentified samples of various germs to laboratories for identification, accidentally released test kits containing  $H_2N_2$  all over the world and efforts are underway to destroy all the samples.

**Audit (*Audit*) [Bio]** A systematic and functionally independent examination to determine whether control activities and results comply with documented objectives.

**Australian Biosecurity Cooperative Research Centre for Emerging Infectious Disease (*Pusat Riset Kooperatif Ketahanan Hayati Australia untuk Penyakit Infeksi Darurat*) [of animals]** Centre that focuses to enhance the national capacity to respond to emerging infectious diseases by developing new capabilities to detect, monitor, assess, predict and respond to emerging infectious diseases which impact on national and regional biosecurity.

**Australian Invasive Animal Cooperative Research Centre (*Pusat Kajian Kooperatif Binatang Invasif*) [of animals]** Centre focusing on solving invasive animal pest problems through developing commercial outputs, this business partnership combines national and international skills in science, management, commerce and industry.

**Australia-Nusa Tenggara Assistance for Regional Autonomy (ANTARA) (*Bantuan Australia-Nusa Tenggara untuk Otonomi Regional*)** An Australian Government (AusAid) initiative commit to supporting local governments to promote economic growth, reduce vulnerability, and increase access to quality basic services; in close collaboration with local authorities, ANTARA is working to achieve three objectives, i.e. (1) to improve provincial and district governance, (2) to improve peri-urban and rural income, and (3) to improve access to and quality of basic services; it is has three mandates to pursue these objectives: (1) to build strategies that maximize impact in reducing poverty through improved coordination between AusAid and other development programs, (2) to pilot new approaches to test “what work”, and (3) to strategically invest in local and/or international initiatives with potential for impact and replication; how to contact us: ANTARA, Jl. Polisi Militer No. 2 Oepoi, Kupang, Nusa Tenggara Timur, 85111, Indonesia, Tel: 0380 83 3099, Fax: 0380 83 3199, E-mail: info@antarantt.or.id.

**Authority (*Otoritas*) [Bio]** An entity or person officially designed by the government to deal with matter arising from the responsibilities set forth in the Code.

**Avian influenza (*Flu burung*) [Bio]** A virus that infects wild birds (such as ducks, gulls, and shorebirds) and domestic poultry (such as chickens, turkeys, ducks, and geese). There is flu for birds just as there is for humans and, as with people, some forms of the flu in birds are worse than others.

**Avian influenza ( $H_5N_1$ ) (*Flu burung*) [Bio]** Influenzas are identified by the type of haemagglutinin ( $H_1-H_{15}$ ), which is an antigenic glycoprotein found on

the surface of the virus and are responsible for binding the virus to the host cell, and neuraminidase ( $N_1-N_9$ ), which is an antigenic glycoprotein enzyme found on the surface of the virus. Because it is generally known to infect birds  $H_5N_1$  is also known as “bird flu”. This type of influenza usually does not affect humans, but in 1997 the first case of transmission from a bird to a human occurred during an outbreak in poultry in Hong Kong. The virus caused severe respiratory illness in 18 people, 6 of whom died. Since this initial outbreak, human  $H_5N_1$  infections have been seen in Thailand, Vietnam, and Cambodia during outbreaks in the poultry population.

## B

**Bark (*Kulit kayu*) [Bio]** The layer of a woody trunk, branch or root outside the cambium.

**Bark-free wood (*Kayu tanpa kulit kayu*) [Bio]** Wood from which all bark, except ingrown bark around knots and bark pockets between rings of annual growth, has been removed.

**Baseline data (*Data garis dasar*)** Information on a condition or problem before an intervention is implemented.

***Bacillus thuringiensis* (Bt) [Bio]** Bacterium that produces a protein called Bt toxin, a biological insecticide. Bt toxin is used to control insect pests by dusting the crop with Bt bacteria. When ingested, Bt toxin kills certain insect larvae, but is regarded as harmless to humans, pets and most beneficial insects such as bees. Inserting a copy of the Bt gene into plants enables them to produce Bt toxin protein. Such plants can resist some insect pests.

**Bactericide (*Bakterisida*) [Bio]** Kills or inactivates bacteria. A class of antibiotics that kills bacterial cells.

**Bacteriophage (*Bakteriofag*) [Bio]** A virus that infects bacteria. Altered forms are used as vectors for cloning DNA.

**BaKTI (*Bursa Pengetahuan Kawasan Timur Indonesia*) [Com]** BaKTI's role is to collect and disseminate knowledge that is relevant for the development of eastern Indonesia. This applies not only to data, studies and reports, but also to knowledge maintained tacitly in the minds of individuals, which is exchanged in seminars and other events.

**Beneficial organism (*Organisme bermanfaat*) [Bio]** Any organism directly or indirectly advantageous to plants or plant product including biological control agents.

**Bioassay (*Uji hayati*) [Bio]** A method of determining the effect of a compound by quantifying its effect on living organisms or their component parts.

**Bioaugmentation (*Bioaugmentasi*) [Bio]** Increasing the activity of bacteria that decompose pollutants, a technique used in bioremediation.

**Biocapacity (*Kapasitas hayati*) [Bio]** A measure of the biological productivity of an area. This may depend on natural conditions or human inputs like farming and forestry practices. Biocapacity can also be defined as the area needed to support the consumption of a defined population.

**Biodiversity (*Keanekaragaman hayati*) [Bio]** (1) All living species that depend on each other as part of a healthy and sustainable environment; (2) the existence of a wide range of different types of organisms in a given place at a given time. The variability among living organisms from all sources including, among other things, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems; and (3) all or any one of ecosystem variety, the variety of species, the genetic variation among members of species, and human cultural variety as manifested in language, belief, land use, art, food preferences, and so forth.

**Biodynamic (*Dinamika hayati*) [Bio]** Relating to a system of farming that uses only organic materials for fertilizing and soil conditioning.

**Bioenrichment (*Pengayaan hayati*) [Bio]** Adding nutrients or oxygen to increase microbial breakdown of pollutants.

**Bioethics (*Etika hayati*) [Bio]** The study of the ethical and moral implications of new biological discoveries, biomedical advances, and their applications as in the fields of genetic engineering and drug research. It considers all living organisms and the environment, from the level of the individual to the biosphere.

**Biogeochemical cycle (*Daur biogeokimia*) [Bio]** The movement of chemical elements between organisms and non-living components of the atmosphere, aquatic systems and soils.

**Bioenergy (*Energi hayati*) [Bio]** Used in different senses: in its most narrow sense it is a synonym for biofuel, fuel derived from biological sources. In its broader sense it encompasses also biomass, the biological material used as a biofuel, as well as the social, economic, scientific and technical fields associated with using biological sources for energy.

**Biological control agent or Biocontrol (*Agen pengendali hayati atau kontrol hayati*) [Bio]** (1) A natural enemy, antagonist or competitor, or other organism, used for pest control; (2) uses a pest's natural enemies to attack and control the pest. We use the word "control" rather than "eliminate" because biological control usually implies that a few pests must remain to feed the natural enemies; and (3) managing pest populations by purposefully manipulating beneficial natural enemies – predatory or parasitic insects that kill pest insects, or microbes that cause insect diseases. See *Bacillus thuringiensis*.

**Biological heritage (*Warisan hayati*) [Bio]** Ecological relationships, genetic and behavioral information, evolutionary history, and geospatial information.

**Biological invasion or Bioinvasion (*Invasi hayati atau Bioinvasi*) [Bio]** (1) The naturalization and unintended spread of unwanted organisms in areas where they have not previously occurred naturally; (2) species transferring outside their original area of distribution. In order to define an invader as a non-indigenous species (NIS) it must be demonstrated that the species had not inhabited this area before.

**Biological natural resources (*Sumberdaya alam hayati*) [Bio]** Biological elements in nature consisted of natural resource of plant and natural resource of animal, together which is along with nonliving element around as a whole form ecosystem.

**Biological pesticide or Biopesticide (*Pestisida hayati atau Biopestisida*) [Bio]** A generic term, not specifically infindable, but generally applied to biological control agent, usually a pathogen, formulated and applied in manner similar to chemical pesticide, and normally used for the rapid reaction of a pest population for short-term pest control.

**Biological productivity or Bioproductivity (*Produktivitas hayati atau Bioproduktivitas*) [Bio]** The capacity of a given area to produce biomass; different ecosystems (i.e. pasture, forest, etc.) will have different levels of bioproductivity. Biological productivity is determined by dividing the total biological production (how much is grown and living) by the total area available.

**Biological warfare (*Peperangan hayati*) [Bio]** The wartime use of biological weapons.

**Biological weapon (*Senjata hayati*) [Bio]** The weaponization of pathogens, parts of them, or their toxins. This may involve modifying the environmental viability of the organism, its dispersal characteristics, its infectivity, etc.

**Biological Weapons Convention (BWC) (*Konvensi Senjata Hayati*) [Bio]** The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (referred to as the Biological Weapons Convention, BWC) was the first multilateral disarmament treaty banning the production and use of an entire category of weapons. It was the result of prolonged efforts by the international community to establish a new instrument that would supplement the 1925 Geneva Protocol. Opened for signature on April 10, 1972, it entered into force March 26, 1975 when 22 governments had finalized their instruments of ratification. It commits the 153 states that are party to it to prohibit national development, production, and stockpiling of biological and toxin weapons and to act to ensure that citizens of those countries likewise do not engage in these activities. However, the absence of any formal verification regime to monitor compliance has limited the effectiveness of the Convention. A protracted process of negotiation to add these missing elements began in the 1990s.

**Biomass (*Biomassa*) [Bio]** (1) The total dry weight of all organisms in a particular sample, population, or area; (2) the materials derived from photosynthesis (fossilized materials may or may not be included) such as forest, agricultural crops, wood and wood wastes, animal wastes, livestock operation residues, aquatic plants, and municipal and industrial wastes; the quantity of organic material present in unit

area at a particular time mostly expressed as tons of dry matter per unit area; organic matter that can be used as fuel.

**Biopiracy (*Penjarahan hayati*) [Bio]** The misappropriation of knowledge and/or biological material from traditional communities.

**Bioprospecting or Biodiversity prospecting (*Bioprospeksi atau Prospeksi hayati*) [Bio]** The search for useful genetic and biochemical compounds and materials and related information in nature.

**Bioprocessing (*Bioproses*) [Bio]** A technique which microorganisms, living cells, or their components are used to produce a desired end product.

**Bioremediation (*Pemulihan hayati*) [Bio]** (1) Using organisms, usually microorganisms, to remove toxins from soil, air or groundwater. See *Bioaugmentation*, *Bioenrichment*; (2) works which restore or recover lands, waters, naturally occurring systems and habitats.

**Biorisk assessment (*Penilaian risiko hayati*) [Bio]** The process to identify acceptable and unacceptable risk (embracing biosafety risk, which is a risk of accidental infection) and laboratory biorisk (risk of unauthorized access, loss, theft, misuse, diversion and intentional release) and their potential consequences.

**Biosafety (*Keamanan hayati*) [Bio]** (1) The development and implementation of administrative policies, work practices, facility design, and safety equipment to prevent transmission of biological agents to workers, other individuals or the environment; (2) the safe handling practices, procedures and proper use of containment facilities to prevent accidental harm caused by living organisms either directly or indirectly to individuals within laboratories or to the environment; (3) the safe use for human, animal and plant health, and the environment, of new biotechnologies; (4) regulate, manage or control the risks associated with the use and release of living modified organisms (LMOs) resulting from biotechnology which are likely to have adverse environmental impacts that could affect the conservation and sustainable use of biological diversity, taking also into account the risks to human health.

**Biosecurity (*Ketahanan hayati*) [Bio]** (1) The protection of a country, region, location's or firm's from economic, environmental and/or human health from harmful organisms; (2) procedures followed or measures taken to safeguard the flora and fauna of a country etc. against exotic pests and diseases; (3) a strategic and integrated approach that encompasses the policy and regulatory frameworks (including instruments and activities) that analyze and manage risks in the sectors of food safety, animal life and health, and plant life and health, including associated environmental risk; (4) effort to prevent, reduce or eliminate the threats, applications and effects of intentional and unintentional misuse of life sciences and technology, while promoting and pursuing beneficial pursuits and uses; (5) measures to protect against the malicious use of pathogens, parts of them, or their toxins in direct or indirect acts against humans, livestock or crops; (6) the implementation of measures that reduce the risk of the introduction and spread of disease agents. Biosecurity

requires the adoption of a set of attitudes and behaviors by people to reduce risk in all activities involving domestic, captive exotic and wild birds and their products; (7) precautions taken to minimize the risk of introducing an infectious disease into an animal population; (8) a set of preventive measures designed to reduce the risk of intentional removal (theft) of a valuable biological material. These preventative measures are a combination of systems and practices usually put into place at a legitimate bioscience laboratory that could be sources of pathogens and toxins for malicious use. Although security is usually thought of in terms of “Guards, Gates, and Guns”, biosecurity encompasses much more than that and requires the cooperation of scientists, technicians, policy makers, security engineers, and law enforcement officials; (9) a strategic and integrated approach to analyzing and managing relevant risks to human, animal and plant life and health and associated risks to the environment; (10) it has been defined in a New Zealand context is protection from the risks posed by organisms to the economy, environment and people’s health through exclusion, eradication and control; (11) the implementation of measures that reduce the risk of introduction and spread of disease agents.

**Biosecurity risk analysis (*Analisis risiko ketahanan hayati*) [Bio]** The process of risk analysis that follows three main stages, namely the likelihood of hazard identification, assessment of its impact in the event of an incursion or threat and risk management.

**Biosecurity threats (*Ancaman ketahanan hayati*) [Bio]** Those matters or activities which, individually or collectively, may constitute a biological risk to the ecological welfare or to the well-being of humans, animals or plants of a country.

**Biosensor technology (*Teknologi biosensor*) [Bio]** The use of cells or biological molecules in an electronic system to detect specific substances. It consists of a biological sensing agent coupled with a microelectronic circuit.

**Biosynthesis (*Biosintesis*) [Bio]** Production of a chemical by a living organism.

**Biotechnology (*Bioteknologi*) [Bio]** (1) The application of science and technology to living organisms as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services; (2) the scientific manipulation of living organism, especially at the molecular genetic level, to produce useful product. Gene splicing and use of recombinant DNA (rDNA) are major techniques used.

**Bioterrorism (*Bioterorisme*) [Bio]** (1) The intentional use of biological and chemical agents for the purpose of causing harm; (2) the malicious use by terrorists of pathogens, parts of them, or their toxins in direct or indirect acts against humans, livestock or crops; (3) terrorism by intentional release or dissemination of biological agents (bacteria, viruses, or toxins); these may be in a naturally-occurring or in a human-modified form.

**Biotic stress (*Cekaman hayati*) [Bio]** Living organisms which can harm plants, such as viruses, fungi, and bacteria, and harmful insects. See *Abiotic stress*.

**Bonding social capital (*Modal sosial mengikat*) [Com]** (1) Exclusive social capital refers to the cohesive bonds (strong ties) that facilitate social relations within relatively homogenous social groups (e.g. families, ethnic groups, religious cliques); (2) ties within subgroups of villagers which may maintain a high level of intimacy and trust; (3) characterized by high level of close, closed and density-knit networks and associated high levels of familiar/personalized trust and reciprocity.

**Brainstorming (*Curah pendapat*) [Com]** A facilitated group discussion whereby members are encouraged to share their ideas about a particular topic, the main purpose of which is to get participants to react to the topic and express ideas in a creative fashion and provide opportunity to gather diverse opinions and generate new ideas, and to learn.

**Bridging social capital (*Modal sosial bridging*) [Com]** (1) Inclusive social capital refers to the weaker horizontal ties that exist between distant friends, associate or colleagues (e.g. civil rights movement, ecumenical religious organization); (2) relations between members of different such subgroups which involves more sparse ties with people/organizations that are diverse, or heterogeneous. These types of connections relate to generalized trust, beyond trusting relationship with people who are familiar or known.

**Brokers (*Perantara*) [Com]** (1) Individual or organizational actors who carry many exclusive links, that is, links to groups that would otherwise not be in direct contact with each other; (2) facilitator of information exchange.

**Brokering social capital (*Modal sosial pemerantara*) [Com]** A quality of individual or special sub-groups, who are able to extract extra social benefit by forming strategic bridges across areas of reduced relational density and thereby mobilize useful resources, access novel information and develop innovative solutions.

**Buffer zone (*Zona penyangga*) [Bio]** An area surrounding or adjacent to an area officially delimited for phytosanitary purposes in order to minimize the probability of spread of the target pest into or out of delimited area, and subject to phytosanitary or other control measures, if appropriate.

**Build capital (*Modal bangunan*) [Com]** (1) Any engineered work, for example irrigation canal; it includes the infrastructure that supports the other capitals; (2) local infrastructure. Comprises housing and other buildings; roads and bridges; energy supplies; communications; markets; and transportation.

**Bulbs and tubers (*Ubi dan umbi akar*) [Bio]** A commodity class for dormant underground parts of plants intended for planting (includes corms and rhizomes).

## C

**Capacity (*Kapasitas*) [Com]** The ability of individuals, organizations and systems to perform functions effectively, efficiently and sustainably. Biosecurity capacity relates to the ability of relevant organizations to perform appropriate functions

effectively, efficiently and sustainably in order to protect human, animal and plant life and health, and associated aspects of the environment.

**Capital (*Modal*) [Com]** Resources invested to create new resources over long time.

**Carcinogen (*Karsinogen*) [Bio]** A substance that induces cancer.

**Carcinoma (*Karsinoma*) [Bio]** A malignant tumor derived from epithelial tissue, which forms the skin and outer cell layers of internal organs.

**Cell-based therapies (*Terapi berbasis sel*) [Bio]** Treatment in which stem cells are induced to differentiate into the specific cell type required to repair damaged or depleted adult cell populations or tissues.

**Centrality (*Sentralitas*) [Soc]** A quantitative network measure. The degree of centrality indicates how many links a node has. This measure can be applied to individual nodes or the whole network. A high degree of centrality for an individual node indicates that it has many links compared to other nodes. Centrality for the whole network indicates the tendency in the network for a few actors to have many links, e.g. a wheel-star structure.

**Center for Eastern Indonesian Studies (CEIS) (*Pusat Studi Kawasan Timur Indonesia*) [Soc]** One of the most active multidisciplinary research centers in *Universitas Kristen Satya Wacana*, Salatiga, Indonesia; its activities are developed and conducted throughout Eastern Indonesia covering regions of Kalimantan (Borneo), Sulawesi (Celebes), Maluku (Moluccas), Nusa Tenggara, and Papua.

**Certificate (*Sertifikat*) [Bio]** An official document which attests to the phytosanitary status of any consignment affected by phytosanitary regulations.

**Centre for Agricultural Bioscience International (CABI) (*Pusat Biosains Pertanian Internasional*) [Bio]** A non-profit international organization that has been working in invasive species for nearly 100 years.

**Chemical pressure impregnation (*Impregnasi tekanan kimia*) [Bio]** Treatment of wood with a chemical preservative through a process of pressure in accordance by phytosanitary regulations.

**Classical biological control (*Pengendalian hayati klasik*) [Bio]** The intentional introduction and permanent establishment of an exotic biological agent for long-term pest control.

**Clearance of a consignment (*Pemeriksaan barang kiriman*) [Bio]** Verification of compliance with phytosanitary regulations.

**Clone (*Klon*) [Bio]** A cell, collection of cells or organism containing identical genetic material. Clones are produced from a single parent cell.

**Cloning (*Kloning*) [Bio]** Technique of creating a group of genetically identical cells or DNA molecules from the mitotic division of a single ancestor.

**Code of ethics (*Kode etik*) [Soc]** A written system of standards, principles, rules, or guidelines that is used by researchers to guide the ethical conduct of research.

**Collaboration** (*Kolaborasi*) [Soc] (1) Co-laboring or working equitably with at least one other person on the same project or task; (2) working together with one or more people to achieve something.

**Collaborative learning** (*Belajar kolaborasi*) [Soc] (1) An umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Usually, students are working in groups of two or more, mutually searching for understanding, solutions, or meanings, or creating a product; (2) students working in small groups to achieve shared learning goals. It is rooted in the assumption that knowledge is socially constructed by consensus among peers.

**Collective action** (*Aksi kolektif*) [Soc] The pursuit of a goal or set of goals by more than one person. It is a term which has formulations and theories in many areas of the social sciences.

**Commensalism** (*Komensalisme*) [Bio] The close association of two or more dissimilar organisms where the association is advantageous to one and doesn't affect the others.

**Communicable disease** (*Penyakit menular*) [Bio] A disease that is transmitted from person to person through direct contact with an infected individual, the infected individual's discharge, or indirectly through a vector. Many of these diseases can be prevented through the use of protective measures, such as increased sanitation or a high level of vaccine coverage of vulnerable populations.

**Commission** (*Komisi*) [Bio] The Commission on Phytosanitary Measures Established under Article XI.

**Commodity** (*Komoditas*) [Bio] A type of plant, plant product, or other article being moved for trade or other purpose.

**Commodity class** (*Kelompok komoditas*) [Bio] A category of similar commodities that can be considered together in phytosanitary regulations.

**Commodity pest list** (*Daftar hama komoditas*) [Bio] A list of pests occurring in an area which may be associated with a specific commodity.

**Community** (*Komunitas*) [Com] (1) A group of people who share common identity or interest whether it be a geographic location, cultural background, occupation, sport, language, age, school or sexuality; (2) a group of people, e.g. a neighborhood, village, or municipal or rural region or a social group with a unifying common interest or trait, loosely organized into a recognizable unit; a vague but useful term. There is often a sense of belonging; (3) comes from the Latin *com* meaning "with or together (implying more than one)" and *unus* meaning "one e.g. many together as one".

**Community action** (*Aksi komunitas*) A community practice approach characterized by the use of power, influence, and negotiations to achieve change.

**Community based (*Berbasis komunitas*) [Com]** Works and projects in which community plays an integral role in the collaborative process and creation of work. Shared or community ownership of works often results from such collaborations.

**Community capital (*Modal komunitas*) [Com]** All resources in community that can be reduced, saved for future use, or invested to create new resources.

**Community development (*Pengembangan komunitas*) [Com]** A community practice approach to build community by enabling, teaching, and motivating people and local organizations for self-help. It is also referred to as local development or social development.

**Community engagement (*Pelibatan masyarakat*) [Com]** A structured dialogue, joint problem-solving and collaborative action among formal authorities, citizens at-large, and local opinion leaders around a pressing public matter.

**Community based management (*Manajemen berbasis masyarakat*) [Com]** The functional control of systems by communities or their representatives. It can and often does, but does not have to, include elements of community ownership, and involvement in day to day operation and maintenance.

**Community participation (*Partisipasi komunitas*) [Com]** A process of active involvement of local individuals and groups in assessment of needs, planning solutions, creating structures for and implementing solutions and assessing outcomes.

**Community planning (*Perencanaan komunitas*) [Com]** A community practice approach to community practice involving a rational structured process that includes the setting of goals, objectives, and priorities.

**Community practice (*Praktik komunitas*) [Com]** Approach to view the community as resource, method, and client, e.g. a Junior League sponsored clean up campaign to improve the neighborhood.

**Community structure (*Struktur komunitas*) [Soc]** A figurative sketch of a network in certain community.

**Competent authority (*Otoritas kompeten*) [Bio]** The official authority charged by the government with sector control of biosecurity, including setting and enforcing of regulatory requirements.

**Competitor (*Pesaing*) [Bio]** An organism which competes with pests for essential elements (e.g. food, shelter) in the environment.

**Competency (*Kompetensi*) [Com]** (1) Can be broadly defined as the ability of a student/worker enabling him to accomplish tasks adequately, to find solutions and to realize them in work situations. This definition fits in with the need for describing competencies and assessing them. Competencies consist of components that are trainable (knowledge, skills) and components that are more difficult to alter (attitudes, beliefs). In addition, competencies refer to a profession in organiza-

tional context; (2) is the ability to perform a specific task, action or function successfully. Incompetence is its opposite.

**Compliance procedure (*Prosedur kepatuhan*) [Bio]** Official procedure used to verify that a consignment complies with stated phytosanitary requirements.

**Concept (*Konsep*) [Soc]** Clearly specified ideas deriving from a particular model.

**Confirmation (*Konfirmasi*) [Soc]** A verification strategy, using multiple approaches to data collection, in which the strengths and weaknesses of the methods are known and counterbalanced to address threats to validity.

**Conservation (*Konservasi*) [Bio]** Sustainable use and protection of natural resources, including plants, animals, mineral deposits, soils, clean water, clean air, and fossil fuel such as coal, petroleum, and natural gas.

**Conservation of biological natural resources (*Konservasi sumberdaya alam hayati*) [Bio]** Management of biological natural resources which its usage is conducted wisely to guarantee its supply continuity, with fixed to maintain and increasing quality of variety and its value.

**Consignment (*Barang kiriman*) [Bio]** A quantity of plants, plant products and/or other articles being moved from one country to another and covered, when required, by a single phytosanitary certificate (a consignment may be composed of one or more commodities or lots).

**Consignment in transit (*Barang kiriman dalam transit*) [Bio]** A consignment which passes through a country without being imported, and that may be subject to phytosanitary measures.

**Containment (*Penahanan*) [Bio]** Application of phytosanitary measures in and around an infested area to prevent spread of a pest.

**Contaminating pest (*Hama pengkontaminasi*) [Bio]** A pest that is carried by a commodity and, in the case of plants and plant products, does not infest those plants or plant products.

**Contamination (*Kontaminasi*) [Bio]** Presence in a commodity, storage place, conveyance or container, of pests or other regulated articles, not constituting an infestation. See *Infestation*.

**Control measure (*Cara pengendalian*) [Bio]** Any action or activity that can be used to prevent or eliminate a hazard or reduce it to an acceptable level.

**Convention on Biological Diversity (CBD) (*Konvensi Keanekaragaman Hayati*) [Bio]** The CBD was signed by 150 government leaders at the 1992 Rio Earth Summit. The Convention is dedicated to promoting sustainable development. It recognizes that biological diversity is about more than plants, animals and micro-organisms and their ecosystems. It is about people and their need for food security, medicines, fresh air and water, shelter, and a clean and healthy environment in which to live. It has established three main goals: the conservation of biological diversity; the

sustainable use of its components; and the fair and equitable sharing of the benefits from the use of genetic resources.

**Containment (*Pembendungan*) [Bio]** The safe methods for managing infectious materials in a laboratory where they are being handled or maintained. The purpose is to eliminate the risk of adverse exposure to harmful agents by laboratory personnel or the outside environment. There are three elements to containment: laboratory practice and technique, safety equipment, and facility design.

**Contaminating pest (*Hama pencemar*) [Bio]** A pest that is carried by a commodity and, in the case of plants and plant products, does not infest those plants or plant products.

**Contamination (*Pencemaran*) [Bio]** Presence in commodity, storage place, conveyance or container, of pests or other regulated articles.

**Content analysis (*Analisis isi*) [Soc]** (1) A research technique for the objective, systematic, and quantitative description of the manifest content of communication. Objectivity is achieved by having the categories of analysis defined so precisely that different persons can apply them to the same content and get the same results. Systematic means, first, that a set procedure is applied in the same way to all the content being analyzed. Second, it means that categories are set up so that all relevant content is analyzed. Finally, it means that the analyses are designed to secure data relevant to a research question or hypothesis. Quantitative means simply the recording of numerical values or the frequencies with which the various defined types of content occur. Manifest content means the apparent content, which means that content must be coded as it appears rather than as the content analyst feels it is intended; (2) any technique for making inferences by objectively and systematically identifying specified characteristics of messages; (3) use of applicable and valid method for making specific inferences from texts to other states or properties of its source; (4) a research tool used to determine the presence of certain words or concepts within texts or sets of texts. Texts can be defined broadly as books, book chapters, essays, interviews, discussions, newspaper headlines and articles, historical documents, speeches, conversations, advertising, theater, informal conversation, or really any occurrence of communicative language; (5) a systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding; (6) content analysis can be powerful tool for determining authorship, examining trends and patterns in documents and provide an empirical basis for monitoring shifts in public opinion; (7) method of data analysis for narrative data (e.g. texts, transcription) in which the segments of the text are systematically categorized such the segment within each category are similar to each other and are different from segments in other categories. Categories might be preplanned on the basis of theory or conceptual framework (a priori themes) or might emerge during the analysis (emergent theme analysis); (8) involves establishing categories, and systematic linkages between them, and the counting the number of instances when those categories are used in a particular item of text.

**Control of pest (*Pengendalian hama*) [Bio]** Suppression, containment or eradication of a pest population.

**Control point (*Batas pengendalian*) [Bio]** A step in a system where specific procedures can be applied to achieve a defined effect and can be measured, monitored, controlled and corrected.

**Controlled area (*Kawasan pengendalian*) [Bio]** A regulated area which an NPPO has determined to be the minimum area necessary to prevent spread of a pest from a quarantine area.

**Conversation analysis (*Analisis percakapan*) [Soc]** Based on attempt to describe people's methods for producing orderly talk-in-interaction. It is assumed that the meanings are shaped in the context of the exchange. In conversation analysis, the researcher immerses himself/herself in the situation to reveal the background of practices.

**Country of origin of a consignment of plant products (*Negara asal barang kiriman produk tumbuhan*) [Bio]** Country where the plants from which the plant products are derived were grown.

**Country of origin of regulated articles other than plants and plant products (*Negara asal barang regulasi selain tumbuhan dan produk tumbuhan*) [Bio]** Country where the regulated articles were first exposed to contamination by pests.

**Cooperation (*Kerjasama*) [Com]** A structure of interaction designed to facilitate the accomplishment of a specific end product or goal through people working together in groups.

**Cooperative learning (*Pembelajaran kooperatif*) [Soc]** (1) The instructional use of small groups so that students work together to maximize their own and each other's learning; (2) set of processes which help people interact together in order to accomplish a specific goal or develop an end product which is usually content specific. It is more directive than a collaborative system of governance and closely controlled by the teacher. See *Collaborative learning*.

**Cooperative Research Centre for Australian Weed Management (*Pusat Kajian Kooperatif untuk Pengelolaan Gulma Australia*) [Bio]** This centre seeks to reduce the influx of new weeds from overseas and to integrate agronomy, competitive crop cultivars, biocontrol, herbicides and other management tools to reduce the costs of weeds to agriculture.

**Cooperative Research Centre for National Plant Biosecurity (*Pusat Kajian Kooperatif untuk Ketahanan Hayati Tanaman Nasional*) [Bio]** Seeking to counteract the impact of emerging pests and diseases through the application of new technology, this centre is creating a national plant biosecurity network by integrating approaches across agencies and jurisdictions. Centrally coordinates plant biosecurity research across all Australian states and territories. Provides leadership in the development, execution and delivery of plant biosecurity research to safeguard Australia's

plant industries; ensure food security for Australian consumers; and improve market access for agricultural exporters.

**Crop rotation or Crop sequencing (*Pergiliran tanaman*) [Bio]** The practice of growing a series of dissimilar types of crops in the same space in sequential seasons for various benefits such as to avoid the build up of pathogens and pests that often occurs when one species is continuously cropped.

**Cryopreservation (*Pengawetan beku*) [Bio]** The process of freezing biological materials in such way that the materials can be stored for long periods of time, and then thawed for use.

**Cultural eutrophication (*Eutrofikasi budaya*) [Com]** The process that speeds up natural eutrophication because of human activity.

**Cultural services (*Jasa budaya*) [Bio]** The non-material benefits of ecosystems including refreshment, spiritual enrichment, knowledge, artistic satisfaction.

**Culture (Budaya) [Soc]** (1) The way of life of people, including their attitudes, values, beliefs, arts, sciences, modes of perception, and habits of thought and activity; (2) the sum total of the ideas, beliefs, customs, values, knowledge, and material artifacts that are handed down from one generation to the next in a society; (3) a many-layered concept with at least three dimensions: the cultivation of human natural capacities, the intellectual and imaginative products of such cultivation, and the whole way of life of a group or a society; (4) a process that permits the learning of prior generations to have more direct effects on the learning of subsequent generations; (5) a normative system, integral to which are norms, rules, and other indicators of how people in particular roles and in particular places should behave; (6) a dynamic system of sometimes competing beliefs and practices but a system characterized by certain widely shared understandings.

**Cultural capital (*Modal budaya*) [Com]** The ways people “know the world” and how to act within it as well as their traditions and language.

**Cultural heritage (*Warisan budaya*) [Com]** Traditional knowledge, life-ways, sacred sites, medicine, art and/or religion.

**Cut flowers and branches (*Cabang dan bunga potong*) [Bio]** A commodity class for fresh parts of plants intended for decorative use and not for planting.

## D

**Data (*Data*) [Soc]** Information arranged in an organized form.

**Database (*Pangkalan data*) [Soc]** An organized collection of information, typically, though not exclusively, held in computer and able to be searched in various ways, such as keyword, author, or subject.

**Debarked wood** (*Kayu terkuliti*) [Bio] Wood that has been subjected to any process that results in the removal of bark. Debarked wood is not necessarily bark-free wood.

**Delimiting survey** (*Survei terbatas*) [Bio] Survey conducted to establish the boundaries of an area considered to be infested by or free from a pest.

**Detection survey** (*Survei deteksi*) [Bio] Survey conducted in an area to determine if pests are present.

**Detention** (*Penahanan*) [Bio] Keeping a consignment in official custody or confinement, as a phytosanitary measure. See *Quarantine*.

**Developing countries** (*Negara berkembang*) [Soc] Development of a country is measured using a mix of economic factors (income per capita, GDP, degree of modern infrastructure (both physical and institutional), degree of industrialization, proportion of economy devoted to agriculture and natural resource extraction and social factors (life expectancy, the rate of literacy, poverty). The UN-produced Human Development Index (HDI) is a compound indicator of the above statistics. There is a strong correlation between low income and high population growth, both within and between countries. In developing countries, there is low per capita income, widespread poverty, and low capital formation. In developed countries there is continuous economic growth and a relatively high standard of living.

**Devitalization** (*Devitalisasi*) [Bio] A procedure rendering plants or plant products incapable of germination, growth or further reproduction.

**Diagnostic procedure** (*Prosedur diagnostik*) [Bio] Any document (e.g. IPPC, EPPO, etc.) addressing one or more specified technical procedures and methods for diagnosis or detection of a specific plant pest or group of plant pests.

**Diagnostic protocol** (*Protokol diagnostik*) [Bio] Any document (e.g. IPPC, EPPO, etc.) that contains detailed information about a specific plant pest or group of plant pests relevant to its diagnosis. A diagnostic protocol will include diagnostic procedures and data on: the pest, its biology and taxonomy, detection, identification, records, acknowledgements, references, and experts contact information.

**Discourse analysis** (*Analisis wacana*) [Soc] Analysis builds on both content analysis and conversation analysis but focuses on “language games”. A language game refers to a well-defined unit of interaction consisting of a sequence of verbal moves in which turns of phrases, the use of metaphor and allegory all play an important part.

**Disinfectant** (*Desinfektan*) [Bio] A substance that destroys harmful microorganisms. According to the Environmental Protection Agency (EPA), a disinfectant destroys 100% of the vegetative (actually growing) bacteria of a certain species under specified conditions. However, disinfection does not include efficacy against fungi, viruses, *Mycobacterium tuberculosis* or bacterial spores (unless specifically tested against those organisms with EPA approved methods).

**Dormancy (*Dormansi*) [Bio]** A period in which a plant does not growth, awaiting necessary environmental conditions such as temperature, moisture, nutrient availability.

**Dose mapping (*Pemetaan dosis*) [Bio]** Measurement of the absorbed dose distribution within a process load through the use of dosimeters placed at specific locations within the process load.

**Dosimeter (*Dosimeter*) [Bio]** A device that, when irradiated, exhibits a quantifiable change in some of the device which can be related to absorbed dose in a given material using appropriate analytical instrumentation and techniques.

**Dosimetry (*Dosimetri*) [Bio]** A system used for determining absorbed dose, consisting of dosimeters, measurement instruments and their associated reference standards, and procedures for the system's use.

**Dunnage (*Kayu ganjal*) [Bio]** Wood packaging material used to secure or support a commodity but which does not remain associated with the commodity.

## E

**Eastern Indonesian Forum or EI Forum (*Forum Kawasan Timur Indonesia atau Forum KTI*) [Soc]** As an independent network, supported by the Decentralization Support Facility Eastern Indonesia (SofEI); it encourages constructive interaction among multistakeholders in Eastern Indonesia (EI) primarily through sharing knowledge, which the main aim is to encourage development effectiveness in EI; the EI forum and the Eastern Indonesia Knowledge Exchange, known as BaKTI, cooperated in forming 12 cluster in every EI province to strengthen the forum; these are known as "Regional Offices".

**Eco (*Eko*) [Bio]** A prefix now added to many words indicating a general consideration for the environment e.g. ecohousing, ecolabel, ecomaterial.

**EcoART [Bio]** A broad field of interdisciplinary arts practice, distinguished from Land Art and Environmental Art by its specific focus on world sensitive ideologies and methodologies. EcoART practice seeks to restore, protect and preserve the world for its own sake, and to mediate human-world relations to this end.

**Eco-asset (*Eko-aset*) [Bio]** A biological asset that provides financial value to private land owners when they are maintained in or restored to their natural state.

**Ecolabel (*Ekolabel*) [Bio]** Seal or logo indicating a product has met a certain environmental or social standards.

**Ecological footprint (*Jejak ekologis*) [Bio]** In a very general environmental sense, a "footprint" is a measure of environmental impact. However, this is usually expressed as an area of productive land (the footprint) needed to counteract the impact; a measure of the area of biologically productive land and water needed to produce the resources and absorb the wastes of a population using the prevailing technology and resource management schemes.

**Ecological literacy (*Literasi ekologis*) [Soc]** (1) An ecologically literate person as one who understands the basic principles of ecology and is able to embody them in the daily life of human communities; (2) ecologically literate person is one who is a responsible, lifelong learner who strives to improve the human condition and the environment within the context of self, human groups, the biosphere and the ecosphere. This person will find purpose and meaning for life by continuously aspiring to higher levels of balanced growth, in his or her cognitive, affective, psychomotor, reflective, intuitive, aesthetic, social, creative and spiritual capabilities; (3) understanding the basic principles of ecology, which include learning about and understanding how nature works, how our society and economy (“human systems”) depend on clean air water, and soil and other resources (products of “natural systems”), and how human interactions with the environment can have both positive and negative impacts on people and the natural world; (4) embodying the principles of ecology in everyday life; (5) consists of three components: the knowledge necessary to comprehend interrelatedness, an attitude of care or stewardship and the practical competence required to act on the basis of knowledge and feeling.

**Ecological sustainability (*Keberlanjutan ekologis*) [Bio]** The capacity of ecosystems to maintain their essential processes and function and to retain their biological diversity without impoverishment.

**Ecologically sustainable development (*Pembangunan berkelanjutan secara ekologis*) [Com]** Using, conserving and enhancing the human community’s resources so that ecological processes, on which all life depends, can be maintained and enriched into the future.

**Ecology (*Ekologi*) [Bio]** (1) The study of the interactions of organisms with their environment and with each other; (2) the scientific study of living organisms and their relationships to one another and their environment; the scientific study of the processes regulating the distribution and abundance of organisms; the study of the design of ecosystem structure and function; (3) the scientific study of the distribution and abundance of life and the interactions between organisms and their environment. The environment of an organism includes physical properties, which can be described as the sum of local abiotic factors such as insulation (sunlight), climate, and geology, and biotic factors, which are other organisms that share its habitat. Ecophysiology examines how the physiological functions of organisms influence the way they interact with the environment, both biotic and abiotic. Behavioral ecology examines the roles of behavior in enabling an animal to adapt to its environment. Population ecology studies the dynamics of populations of a single species. Community ecology (or synecology) focuses on the interactions between species within an ecological community. Ecosystem ecology studies the flows of energy and matter through the biotic and abiotic components of ecosystems. Systems ecology is an interdisciplinary field focusing on the study, development, and organization of ecological systems from a holistic perspective. Landscape ecology examines processes and relationship across multiple ecosystems or very large geographic areas. Evolutionary ecology studies ecology in a way that explicitly

considers the evolutionary histories of species and their interactions. Political ecology connects politics and economy to problems of environmental control and ecological change. Ecology can also be sub-divided according to the species of interest into fields such as animal ecology, plant ecology, insect ecology, and so on. Another frequent method of subdivision is by biome studied, e.g. Arctic ecology (or polar ecology), tropical ecology, desert ecology, etc. The primary technique used for investigation is often used to subdivide the discipline into groups such as chemical ecology, genetic ecology, field ecology, statistical ecology, theoretical ecology, and so forth. These fields are not mutually exclusive.

**Ecological crisis (*Krisis ekologis*) [Bio]** Occurs with the loss of adaptive capacity when the resilience of an environment or of a species or a population evolves in a way unfavorable to cope with perturbations that interfere with that ecosystem, landscape or species survival. It may be that the environment quality degrades compared to the species needs, after a change in an abiotic ecological factor (for example, an increase of temperature, less significant rainfalls). It may be that the environment becomes unfavorable for the survival of a species (or a population) due to an increased pressure of predation (for example overfishing). Lastly, it may be that the situation becomes unfavorable to the quality of life of the species (or the population) due to a rise in the number of individuals (overpopulation).

**Ecological restoration (*Restorasi ekologis*) [Bio]** Is the process of repairing damage caused by humans to the diversity and dynamics of indigenous ecosystems.

**Ecosystem (*Ekosistem*) [Bio]** (1) The organisms in a plant population and the biotic and abiotic factors which impact on them; (2) a system of environment element representing union totally, and is influencing each other in forming balance, stability, and environment productivity; a dynamic complex of plant, animal and micro-organism communities and their abiotic environment interacting as a functional unit.

**Economic externalities (*Eksternalitas ekonomi*) [Com]** Costs or benefits that are not borne by the producer or supplier of a good or service. In many environmental situations, environmental deterioration may be caused by a few while the cost is borne by the community; examples would include overfishing, pollution (e.g. production of greenhouse emissions that are not compensated for in any way by taxes etc.), the environmental cost of land-clearing etc.

**EcoTECH [Bio]** “Earth-friendly” technologies; often utilized in or developed through EcoART practices.

**Ecotype (*Ekotipe*) [Bio]** (1) A subgroup of a species that has characteristic genetically determined adaptations to its local environment. In some cases individuals belonging to different ecotypes cannot interbreed, for example where accumulated genetic differences are too great; (2) a locally adapted population of a widespread species. Such populations show minor changes of morphology and/or physiology, which are related to habitat and are genetically induced. Nevertheless they can still reproduce with other ecotypes of the same species.

**Ecosystem boundary (*Batas ekosistem*) [Bio]** The spatial delimitation of an ecosystem usually based on discontinuities of organisms and the physical environment.

**Ecosystem services (*Jasa ekosistem*) [Bio]** The role played by organisms, without charge, in creating a healthy environment for human beings, from production of oxygen to soil formation, maintenance of water quality and much more. These services are now generally divided into four groups, supporting, provisioning, regulating and cultural.

**Effectiveness of treatment (*Efektivitas perlakuan*) [Bio]** A defined, measurable, and reproducible effect by a prescribed treatment.

**Emergency action (*Tindakan darurat*) [Bio]** A prompt phytosanitary action undertaken in a new or unexpected phytosanitary situation.

**Emergency plant pest (*Hama tumbuhan darurat*) [Bio]** Is a Plant Pest that is determined to meet one or more of the following criteria: (a) It is a known exotic Plant Pest the economic consequences of an occurrence of which would be economically or otherwise harmful for Australia, and for which it is considered to be in the regional and national interest to be free of the Plant Pest. (b) It is a variant form of an established Plant Pest which can be distinguished by appropriate investigative and diagnostic methods and which, if established in Australia, would have a regional and national impact. (c) It is a serious Plant Pest of unknown or uncertain origin which may, on the evidence available at the time, be an entirely new Plant Pest and which if established in Australia is considered likely to have an adverse economic impact regionally and nationally. (d) It is a Plant Pest of potential economic importance to the area endangered thereby and not yet present there or widely distributed and being officially controlled, but is occurring in such a fulminant outbreak form, that an emergency response is required to ensure that there is not either a large scale epidemic of regional and national significance or serious loss of market access.

**Emerging zoonosis (*Zoonosis darurat*) [Bio]** A zoonosis that is newly recognized or newly evolved, or that has occurred previously but shows an increase in incidence or expansion in geographic, host or vector range.

**Empowerment (*Pemberdayaan*) [Com]** The development of the ability (power) to exercise management control over resources and institutions, to own livelihood, and secure sustainable use of resources upon which communities depend.

**Endangered area (*Kawasan terancam*) [Bio]** An area where ecological factors favor the establishment of a pest whose presence in the area will result in economically important loss.

**Entry of a consignment (*Masuknya barang kiriman*) [Bio]** Movement through a point of entry into an area.

**Entry of a pest (*Masuknya hama*) [Bio]** Movement of a pest into an area where it is not yet present, or present but not widely distributed and being officially controlled.

**Environment (*Lingkungan*) [Bio]** All of the external factors affecting an organism. These factors may be other living organisms (biotic factors) or nonliving variables (abiotic factors), such as water, soil, climate, light and oxygen. All interacting biotic and abiotic factors together make up an ecosystem.

**Environmental art (*Seni lingkungan*) [Com]** A general term referring to art in and/or about the environment. Not necessarily world-sensitive or remedial practice.

**Environmental capacity (*Kapasitas lingkungan*) [Bio]** A capability of environment to support human life and other life being.

**Environmental impact (*Dampak lingkungan*) [Bio]** The influence of change at the environment which is resulted from an effort and/or activity.

**Environmental literacy (*Literasi lingkungan*) [Com]** Includes knowledge of environmental subjects, positive environmental attitudes and pro-environmental behavior.

**Environmental pollution (*Pencemaran lingkungan*) [Bio]** Is entry of or the including of life being, substance, energy, and/or other component into environment by activity of human being until its quality get down level, causing environment cannot function as according to its function.

**Environmental management (*Pengelolaan lingkungan*) [Com]** An integrated effort for the purpose of the utilization, regulation, maintenance, supervision, control, rehabilitation and development of the environment.

**Environmental impact assessment (*Analisis mengenai dampak lingkungan hidup*) [Soc]** Is the process of studying the significant impact of a proposed business or activity on the environment, which is required as part of the Decision making process.

**Eradication (*Eradikasi*) [Bio]** Application of phytosanitary measures to eliminate a pest from an area.

**E-resources (*Sumberdaya elektronik*) [Com]** Resources that available electronically. Many resources are provided on a subscription basis via the library, and therefore require password to access them.

**Exotic (*Ekstotik*) [Bio]** Not native to particular country, ecosystem or ecoarea (applied to organisms intentionally or accidentally introduced as a result of human activities). As the code is directed at the introduction of biological control agents from one country to another, the term “exotic” is used for organisms not native to a country. See *Alien species*, *Native species*.

**Etymology (*Etimologi*) [Soc]** The study of historical changes in the meaning of words.

**Ethical (*Etis*) [Com]** Relates to set moral principles or values, or theory or system of moral values that guides the behavior of an individual or group.

**Ethnobiology (*Etnobiologi*) [Soc]** The study of the reciprocal interactions between people and biological organism and of traditional knowledge about these interactions.

**Ethnography (*Etnografi*) [Soc]** (1) The social scientific study of a people and their culture. This also refers to a qualitative research method in which data are collected through different procedures such as participant observation, interview, and examination of artifacts and records; (2) highly descriptive writing about particular groups of people.

**Ethnomethodology (*Etnometodologi*) [Soc]** The study of the “methods” or social procedures, by which people construct reality and make sense of events in everyday life. It seeks to describe methods persons use in doing social life. Ethnomethodology is not a methodology but a theoretical model.

**Ethnoscience (*Etnosains*) [Soc]** The study of interactions and of traditional knowledge of the physical and biological world. It is a scientific approach to traditional knowledge, based on the work of Harold Conklin among the Hanunoo of the Philippines in the 1950’s. Through elicitation of responses to both natural objects such as plants, diseases, soils, and animals, and human activities such as agriculture, scientists developed an appreciation of the coherence of indigenous knowledge systems, their empirical precision, and their attunement to local environmental contexts.

**European and Mediterranean Plant Protection Organization (EPPO) (*Organisasi Perlindungan Tanaman Mediteranea dan Eropah*) [Bio]** is an inter-governmental organisation responsible for European cooperation in plant protection in the European and Mediterranean region.

**Eugenics (*Eugenik*) [Bio]** Eugenics involves using principles of genetics to improve humankind.

**Evolution (*Evolusi*) [Bio]** The long-term process through which a population of organisms accumulate genetic changes that enable its members to successfully adapt to environmental conditions and to better exploit food resources.

**Exogenous virus (*Virus eksogen*) [Bio]** Caused by factors (as food or traumatic factor) or an agent (as disease-producing organism) which are introduced, produced, or synthesized from outside of the infected organism.

**Equivalence (*Kesamaan*) [Bio]** The capability of different biosecurity controls to achieve the same health objectives.

## F

**Field (*Ladang*) [Bio]** A plot of land with defined boundaries within a place of production on which a commodity is grown.

**Find free (*Bebas mencari*) [Bio]** To inspect a consignment, field or place of production and consider it to be free from a specific pest.

**Financial capital (*Modal finansial*) [Com]** The economic resources available to a community or program; the financial resources available to invest in community capacity building, to underwrite invasive pest management and business development, to support civic and social entrepreneurship, and to accumulate wealth for future community development; stocks of money and savings; comprises access to affordable credit; pensions; welfare payments; grants and subsidies.

**Focus group discussion (*Diskusi kelompok terarah*) [Soc]** (1) An interactive interview setting in which a small number of respondents (preferably six to eight) engage in discussion in response to a moderator's questions. Focus group sessions generally last between 1 and 3 h and allow in-depth discussion. During the conduct of a focus group, the moderator typically facilitates group discussion on a series about 5–10 open-ended items written on the moderator's "focus group interview protocol"; all of the items on the protocol are related to the focus topic; (2) discussions with four to eight selected members of a community who are chosen for their knowledge and involvement in a specific topic. The group facilitator guides the discussion to focus on gathering information, clarifying community perceptions, and building consensus for a recorded outcome.

**Food (*Pangan*) [Bio]** Shall be everything originating from biological sources and water whether processed or not, which is designated as cattalos and beverages for human consumption, including food additive material, food raw material and other materials used in the process of preparation, processing and or the making of cattalos or beverages.

**Food advertisement (*Iklan pangan*) [Bio]** Any information or statement, concerning food in the form of a picture, writing, or another form carried out by various methods for the marketing and or the trade of food.

**Food genetic engineering (*Rekayasa genetika pangan*) [Bio]** The process involving the transfer of the genes (bearer of the characteristics) of one biological kind to another which is different or similar to derive a new kind which is able to produce a more superior food product.

**Food insecurity (*Rawan pangan*) [Bio]** A condition in which people lack basic food intake to provide them with the energy and nutrients for fully productive lives. See *Food security*.

**Food label (*Label pangan*) [Bio]** Any information concerning food in the form of a picture, writing a combination of both, or another form accompanying the food, which is put in, affixed to or constituting part of the food packing.

**Food nutrients (*Gizi pangan*) [Bio]** A substance or compound found in food consisting of carbohydrates, proteins, fats, vitamins and minerals as well as their derivatives which is useful for the growth and health of human.

**Food irradiation (*Iradiasi pangan*) [Bio]** The method of radiating food using a radioactive substance as well as accelerators to prevent purifying and decay and to free food from pathogenic microorganism.

**Food packing (*Kemasan pangan*) [Bio]** The material, used to contain and or pack food, whether directly touching the food or not.

**Food production (*Produksi pangan*) [Bio]** An activity or process of producing, preparing, processing, making, preserving, packing or repackaging.

**Food safety (*Keamanan pangan*) [Bio]** (1) Addresses ways to limit the presence of both naturally occurring food contaminants and those caused by cross contamination, and to prevent growth of organisms caused by time/temperature abuse; (2) the condition and efforts required to prevent food from possible biological chemical-contamination and contamination by other objects which may disturb, harm, and endanger the human health.

**Food security (*Ketahanan pangan*) [Bio]** (1) The condition in which the fulfillment of food for the households is reflected by the availability of sufficient food both its quantity and quality, safe, evenly distributed and within reach; (2) the availability of food and one's access to it. A household is considered food secure when its occupants do not live in hunger or fear of starvation; (3) global food security refers to food produced in sufficient quantity to meet the full requirements of all people i.e. total global food supply equals the total global demand. For households it is the ability to purchase or produce the food they need for a healthy and active life (disposable income is a crucial issue). Women are typically gatekeepers of household food security. For national food security, the focus is on sufficient food for all people in a nation and it entails a combination of national production, imports and exports. Food security always has components of production, access and utilisation.

**Food system (*Sistem pangan*) [Bio]** Everything which is related to the regulation, development and or supervision on food production activities or process and food circulation until ready for human consumption.

**Food transportation (*Transportasi pangan*) [Bio]** Shall be any activity or a series of activities in the framework of transferring food from one place to another by whether way or means of transportation in the framework of the production, circulation and or trade of food.

**Food quality (*Mutu pangan*) [Bio]** The value determined based on the criteria of food safety, nutrition content and trade standard on foodstuffs, eatables and beverages.

**Footprint or Ecologically footprint (*Jejak kaki atau Jejak kaki ekologis*) [Bio]** In a very general environmental sense, a "footprint" is a measure of environmental impact. However, this is usually expressed as an area of productive land (the footprint) needed to counteract the impact.

**Fresh (*Segar*) [Bio]** Living, not dried, deep-frozen or otherwise conserved.

**Fruits and vegetables (*Buah-buahan dan sayur-mayur*) [Bio]** A commodity class for fresh parts of plants intended for consumption or processing and not for planting.

**Fumigation (*Fumigasi*) [Bio]** Treatment with a chemical agent that reaches the commodity wholly or printing in a gaseous state.

**Fungicide (*Fungisida*) [Bio]** Substances to kills or inactivates fungi.

## G

**Gaia hypothesis (*Hipotesis Gaia*) [Bio]** An ecological hypothesis that proposes that living and nonliving parts of the earth are a complex interacting system that can be thought of as a single organism.

**G8 [Com]** The Group of Eight is an international forum for the world's major industrialized democracies that emerged following the 1973 oil crisis and subsequent global recession. It includes Canada, France, Germany, Italy, Japan, Russia, the UK and the US which represents about 65% of the world economy.

**Generalist species (*Spesies generalis*) [Bio]** Species that able to thrive in a wide variety of environmental conditions and can make use of a variety of different resources.

**Genetic disease (*Penyakit genetik*) [Bio]** A disease that has its origin in changes to the genetic material, DNA. Usually refers to diseases that are inherited in a Mendelian fashion, although non-inherited forms of cancer also result from DNA mutation.

**Genetic engineering (*Rekayasa genetika*) [Bio]** Using recombinant DNA techniques and related methods to move one or several genes from one organism to another, to rearrange one or several genes within a cell, or to alter gene-controlled processes. Transferring a DNA segment from one organism and inserting it into the DNA of another organism to modify, amplify, transform and express genetic information. Genetic engineering changes the type or amount of proteins an organism is capable of producing. See *Recombinant DNA*.

**Genetically modified organism or GMO (*Organisme termodifikasi secara genetik*) [Bio]** (1) Organisms where in the genetic material (DNA) has been artificially altered, usually by replacing some of the host organism's genes with those of another related or unrelated species. GMOs are often irreproducible in nature. For example, plants can be crossbred with insecticides in order to be more resistant to insect damage; (2) An organism whose genetic material has been altered using the genetic engineering techniques generally known as recombinant DNA technology. Genetic engineering today has become another serious and alarming cause of genetic pollution because artificially created and genetically engineered plants and animals in laboratories, which could never have evolved in nature even with conventional hybridization, can live and breed on their own and what is even more alarming interbreed with naturally evolved wild varieties. Genetically modified crops today have become a common source for genetic pollution, not only of wild varieties but also of other domesticated varieties derived from relatively natural hybridization.

**Germ cell gene therapy (*Terapi gen sel nutfah*) [Bio]** The repair or replacement of a defective gene within the gamete-forming tissues, which produces a heritable change in an organism's genetic constitution.

**Germplasm (*Plasma nutfah*) [Bio]** Plants intended for use in breeding or conservation programs.

**Global Invasive Species Programme (*Program Spesies Invasif Global*) [Bio]** An international partnership dedicated to tackling the global threat of invasive species that aims to conserve biodiversity and sustain livelihoods by minimizing the spread and impact of invasive alien species. It also calls on the scientific community to conduct more desperately-needed research into this topic. See *Invasive species*.

**Global dimming (*Peredupan global*) [Bio]** A reduction in the amount of direct solar radiation reaching the surface of the earth due to light diffusion as a result of air pollution and increasing levels of cloud. A phenomenon of the last 30–50 years.

**Global economy (*Ekonomi global*) [Soc]** The emerging international economy characterized by free trade in goods and services, unrestricted capital flows and more limited national powers to control domestic economies.

**Global warming (*Pemanasan global*)** The observable increase in global temperatures considered mainly caused by the human induced enhanced greenhouse effect trapping the Sun's heat in the Earth's atmosphere.

**Globalization (*Globalisasi*)** The expansion of interactions to a global or worldwide scale; the increasing interdependence, integration and interaction among people and organizations from around the world. A general term, used since the mid 1940s, referring to a mix of economic, social, technological, cultural and political interrelationships.

**Goal (*Sasaran*) [Soc]** Goals describe future expected outcomes or states. They are not measurable but provide programmatic direction. They focus on ends (e.g. lower domestic violence rates) rather than means (e.g. provide more shelter beds).

**Governance (*Kepemerintahan*) [Com]** Refers to the Decision making procedure – who makes decisions, how they are made, and with what information: the structures and processes for collective Decision making involving governmental and non-governmental actors.

**Grain (*Biji-bijian*) [Bio]** A commodity class for seeds intended for processing or consumption and not for planting. See *Seeds*.

**Gray (Gy) [Bio]** Unit of absorbed dose where 1 Gy is equivalent to the absorption of 1 joule per kilogram (1 Gy = 1 J.kg<sup>-1</sup>).

**Green manure (*Pupuk hijau*) [Bio]** A type of cover crop grown primarily to add nutrients and organic matter to the soil.

**Green revolution (*Revolusi hijau*) (1)** Advances in genetics, petrochemicals, and machinery that culminated in dramatic increase in crop productivity during the third

quarter of the twentieth century; the ongoing transformation of agriculture that led in some places to significant increases in agricultural production between the 1940s and 1960s.

**Green washing (*Pencucian hijau*)** A derogatory term used to describe companies that portray themselves as environmentally friendly when their business practices do not back this up. Generally applies to excessive use of green marketing and packaging when this does not take account of the total ecological footprint.

**Green waste (*Limbah hijau*)** Green organic material or green organics, plant material discarded as non-putrescable waste including tree and shrub cuttings and prunings, grass clippings, leaves, natural (untreated) timber waste and weeds (noxious or otherwise).

**Green or Sustainable (*Hijau atau Berkelanjutan*)** Like “eco”, a word frequently used to indicate consideration for the environment e.g. green plumbers, green purchasing etc., sometimes used as a noun e.g. the Greens.

**Greenhouse effect (*Efek rumah kaca*)** The insulating effect of atmospheric greenhouse gases (e.g. water vapor, carbon dioxide, methane, etc.) that keeps the Earth’s temperature about 60 °F (16 °C) warmer than it would be otherwise cf. enhanced greenhouse effect.

**Greenhouse gases (*Gas rumah kaca*)** Any gas that contributes to the greenhouse effect; gaseous constituents of the atmosphere, both natural and from human activity that absorb and re-emit infrared radiation. Water vapor (H<sub>2</sub>O) is the most abundant greenhouse gas. Greenhouse gases are a natural part of the atmosphere and include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>, persisting 9–15 years with a greenhouse warming potential (GWP) 22 times that of CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O persists 120 years and has a GWP of 310), ozone (O<sub>3</sub>), hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride.

**Growing medium (*Media pertumbuhan*) [Bio]** Any material in which plant roots are growing or intended for that purpose.

**Growing period (*Periode pertumbuhan*) [Bio]** Time period of active growth during a growing season.

**Growing season (*Musim pertumbuhan*) [Bio]** Period or periods of the year when plants actively grow in area, place of production or production site.

**Grounded theory (*Teori mendarat*) [Soc]** (1) A research method that seeks to develop theory that is grounded in data systematically gathered and analyzed; (2) An inductive, theory discovery methodology that allows the researcher to develop a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data. The major difference between grounded theory and other methods is its specific approach to theory development – grounded theory suggests that there should be a continuous interplay between data collection and analysis. Grounded theory approaches are becoming increasingly

common in the research literature because the method is extremely useful in developing context-based, process-oriented descriptions and explanations of the phenomenon; (3) involves three stages: an initial attempt to develop categories which illuminate the data; an attempt to “saturate” these categories with many appropriate cases in order to demonstrate their relevance; and trying to develop these categories into more general analytic frameworks with relevance outside setting.

**Guidelines (*Panduan*)** A statement or other indication of policy or procedure by which to determine a course of action. Guidelines may be developed by government agencies at any level, institutions, professional societies, governing boards, or by the convening of expert panels. Though not necessarily mandatory, the text is generally a comprehensive guide to problems and approaches in any field of activity.

## H

**Habitat (*Habitat*)** [Bio] Environment place of plant or animal able to life and develop naturally; part of an ecosystem with conditions in which an organism naturally occurs or can establish.

**Harmonization (*Harmonisasi*)** [Bio] The establishment, recognition and application by different countries of phytosanitary measures based on common standards.

**Heat treatment (*Perlakuan panas*)** [Bio] The process in which a commodity is heated until it reaches a minimum temperature for a minimum period of time according to an official technical specification.

**Herbicide (*Herbisida*)** [Bio] (1) Any substance that is toxic to plants; usually used to kill specific unwanted plants; (2) a chemical that kills or inhibits growth of a plant. See *Fungicide*.

**Hermeneutics (*Hermeneutika*)** [Soc] Primarily concerned with the meaning of a text or text-analogue (an example of a text-analogue is an organization, which the researcher comes to understand through oral or written text). The basic question in hermeneutics is: what is the meaning of this text? Interpretation, in the sense relevant to hermeneutics, is an attempt to make clear, to make sense of an object of study. This object must, therefore, be a text, or a text-analogue, which in some way is confused, incomplete, cloudy, seemingly contradictory – in one way or another, unclear. The interpretation aims to bring to light an underlying coherence or sense.

**Hermeneutics data (*Hermeneutika data*)** [Soc] Data based on how participants make sense or interpret their experiences.

**Heuristic (*Heuristik*)** [Soc] Relates to exploratory problem-solving that uses self-educating techniques; an educational method in which learning takes place through discoveries based on investigations.

**Heuristic research (*Penelitian heuristic*)** [Soc] Relates to research that involves self-search, self-dialogue, and self-discovery.

**Homeostasis** (*Homeostasis*) [Bio] The property of either an open system or a closed system, especially a living organism that regulates its internal environment so as to maintain a stable, constant condition.

**Host pest list** (*Daftar hama inang*) [Bio] A list of pest that infest a plant species, globally or in an area.

**Host range** (*Kisaran inang*) [Bio] Species capable, under normal condition, sustaining a specific pest or other organism.

**Human capital** (*Aset manusia*) [Com] Includes the skill and abilities of people to develop and enhance their resources, and to access outside resources and bodies of knowledge in order to increase their understanding, identify promising practices and to access data to enhance community capital; the status of individuals, comprises the stock of health, nutrition, education, skills and knowledge of individuals; access to services that provide these, such as schools, medical services, adult training; the ways individuals interact with technologies; and the leadership quality of individuals; the skill and knowledge of the individual contained within a community.

**Human ecology** (*Ekologi manusia*) [Soc] (1) The study of the relationships between individuals, social groups, and their social environments. Systematic study of human (or, as it is sometimes termed, ‘social’) ecology was initiated by Robert Park and the other Chicago sociologists; (2) human ecology deals with human communities in relation to their environment; (3) an academic discipline that deals with the relationship between humans and their natural, social and created environments. Human ecology investigates how humans and human societies interact with nature and with their environment. Human ecology is variously a sub-discipline of anthropology, psychology, sociology, or ecology. Environmental sociology is a field of sociology which encompasses the interactions between humans and nature/natural environment, but is rooted in the methodological and theoretical canon of sociology. Human ecology is an interdisciplinary applied field that uses a holistic approach to help people solve problems and enhance human potential within their near environments – their clothing, family, home, and community. Human ecologists promote the well-being of individuals, families, and communities through education, prevention, and empowerment. Human ecology explores not only the influence of humans on their environment but also the influence of the environment on human behavior and their adaptive strategies as they come to understand those influences better.

## I

**Import permit** (*Izin impor*) [Bio] Official document authorizing importation of a commodity in accordance with specified phytosanitary import requirements.

**Inactivation** (*Penidakaktifan*) [Bio] Rendering microorganism incapable of development.

**Incursion (*Serangan mendadak*) [Bio]** An isolated population of a pest recently detected in an area, not known to be established, but expected to survive for the immediate future.

**Indicator (*Indikator*) [Soc]** Quantifiable measure of phenomenon, e.g. the number of drunken driving arrests is an indicator of addictions in a community.

**Indicator species (*Spesies indikator*) [Bio]** Any biological species that defines a trait or characteristic of the environment.

**Industrial agriculture (*Pertanian industrial*) [Soc]** A form of modern farming that refers to the industrialized production of livestock, poultry, fish, and crops.

**Industrial revolution (*Revolusi industrial*) [Soc]** A period in the late eighteenth and early nineteenth centuries when major changes in agriculture, manufacturing, and transportation had a profound effect on socioeconomic and cultural conditions.

**Inference (*Inferensi*) [Soc]** An umbrella term referring to a final outcome of a study. The outcome may consist of a conclusion about, an understanding of, or an explanation for an event, a behavior, a relationship, or a case.

**Infestation of a commodity (*Infestasi komoditas*) [Bio]** Presence in a commodity of a living pest of the plant or plant product concerned. Infestation includes infection.

**Inspection (*Pemeriksaan*) [Bio]** Official visual examination of plants, plant products or other regulated articles to determine if pests are present and/or to determine compliance with phytosanitary regulations.

**Inspector (*Pemeriksa*) [Bio]** Person authorized by a National Plant Protection Organization to discharge its functions.

**Institution (*Lembaga*) [Com]** (1) Formal and informal rule governing the behavior of human. Institutions include habitualized behavior and rules and norms that govern society, as well as the more usual notion of formal institutions with memberships, constituencies and stakeholders; (2) structures and mechanisms of social order and cooperation governing the behavior of a set of individuals. Institutions are identified with a social purpose and permanence, transcending individual human lives and intentions, and with the making and enforcing of rules governing cooperative human behavior. The term, institution, is commonly applied to customs and behavior patterns important to a society, as well as to particular formal organizations of government and public service. As structures and mechanisms of social order among humans, institutions are one of the principal objects of study in the social sciences, including sociology, political science and economics. Institutions are a central concern for law, the formal regime for political rule-making and enforcement. The creation and evolution of institutions is a primary topic for history.

**Integrity of a consignment (*Integritas barang kiriman*) [Bio]** Composition of a consignment as described by its phytosanitary certificate or other officially acceptable document, maintained without loss, addition or substitution.

**Intended use (*Penggunaan disengaja*) [Bio]** Declared purpose for which plants, plant products, or other regulated articles are imported, produced, or used.

**Interception of a consignment (*Intersepsi barang kiriman*) [Bio]** The refusal or controlled entry of an imported consignment due to failure to comply with phytosanitary regulations.

**Interception of a pest (*Intersepsi hama*) [Bio]** The detection of a pest during inspection or testing of an imported consignment.

**Interdisciplinary (*Interdisipliner*) [Soc]** Researchers work jointly, but from each of their respective disciplinary perspectives, to address a common problem. See *Multidisciplinary*, *Transdisciplinary*.

**Intermediate quarantine (*Karantina tingkat menengah*) [Bio]** Quarantine in a country other than the country of origin or destination.

**Internal validity (*Kesahihan internal*) [Soc]** The approximate validity with which we infer that a relationship between two variables is causal or that the absence of a relationship implies the absence of cause.

**International Standard for Phytosanitary Measures (ISPM) (*Standar Internasional untuk Tindakan Fitosanitari*) [Bio]** An international standard adopted by the conference of FAO, the interim commission on phytosanitary measures or the commission on phytosanitary measures, established under the IPPC.

**International standards (*Standar internasional*) [Bio]** International standards established in accordance with Article X paragraph 1 and 2 of the IPPC.

**Integrated pest management (*Pengendalian hama terpadu*) [Bio]** (1) A systems approach that combines preventive techniques, non-chemical pest control methods and the wise use of pesticides with preference for products that are least harmful to human health and the environment. It is not the total elimination of pesticides, but an alternate approach to traditional pest control measures. IPM consists of routine inspection and monitoring with treatment only when pests are actually present, thus reducing traditional, routine pesticide application treatment (calendar date sprays) whether pests were present or not; (2) The application of an interconnected set of principles and methods to problems caused by insects, diseases, weeds, (nematodes) and other agricultural pests. IPM includes pest prevention techniques, pest monitoring methods, biological control, pest-resistant plants varieties, pest attractants and repellents, biopesticides, and synthetic organic pesticides. It also involves the use of weather data to predict the onset of pest attack, and cultural practices such as rotation, mulching, raised planting beds, narrow plant rows, and interseeding; (3) an effort to control the level of pest and disease population by using one or more control techniques which are developed into one system, to prevent or reduce economic losses and disruption of ecology; (4) responses to pests and diseases in an agricultural setting, as management rather than control is a more realistic aim; (5) an approach to pest control that utilizes regular monitoring and record keeping to determine if and when treatments are needed, and employs a combination of

strategies and tactics to keep pest numbers low enough to prevent unacceptable damage or annoyance.

**Intellectual property rights (IPR) (*Hak kepemilikan intelektual*) [Com]** Rights recognized as belonging to creators of original creative works and designs that are protected under legislation for period of time.

**Introduction of a biological control agent (*Introduksi agen pengendalian hayati*) [Bio]** The release of a biological control agent into an ecosystem where it did not exist previously.

**Inundative release (*Pelepasan inundatif*) [Bio]** The release of large numbers of mass-produced biological control agents or beneficial organisms with the expectation of achieving a rapid effect.

**Invasive species (*Spesies invasif*) [Bio]** An alien species whose introduction does or is likely to cause economic or environmental harm to human health. See *Alien species*, *Exotic species*, *Native species*.

**Invasiveness (*Daya serbu*) [Bio]** Ability of a plant to spread beyond its introduction site and become established in new locations where it may produce a deleterious effect on organisms already existing there.

**In vitro fertilization (*Fertilisasi in vitro*) [Bio]** An assisted reproductive technology in which one or more eggs are fertilized outside a female's body. This technique has been used extensively in animal embryological research for decades, but only since 1978 has it been successfully applied to human reproduction.

**International Plant Protection Convention (IPPC) (*Konvensi Perlindungan Tumbuhan Internasional*) [Bio]** Is an international treaty whose purpose is to secure a common and effective action to prevent the spread and introduction of pests of plants and plant products, and to promote appropriate measures for their control. The Convention extends to the protection of natural flora and plant products. It also includes both direct and indirect damage by pests, thus including weeds. The provisions extend to cover conveyances, containers, storage places, soil and other objects or material capable of harboring plant pests.

**International Union for Conservation of Nature (IUCN) (*Organisasi Internasional untuk Konservasi Alam*) [Bio]** Helps the world find pragmatic solutions to our most pressing environment and development challenges by supporting scientific research; managing field projects all over the world; and bringing governments, NGOs, the UN, international conventions and companies together to develop policy, laws and best practice.

**Ionizing radiation (*Radiasi ionisasi*) [Bio]** Charged particles and electromagnetic waves as a result of physical interaction create ions by either primary or secondary processes.

**Irradiation (*Iradiasi*) [Bio]** Treatment with any type of ionizing radiation.

**J**

**Justification (*Pembenaran*) [Soc]** The empirical evaluation, testing, or confirmation of theory.

**K**

**Kiln-drying (*Tempat pengeringan*) [Bio]** A process in which wood is dried in a closed chamber using heat and/or humidity control to achieve required moisture content.

**Knowledge transfer (*Alih pengetahuan*) [Com]** Knowledge transfer seeks to organize, create, capture or distribute knowledge and ensure its availability for the future user.

**L**

**Laboratory biosafety (*Keamanan hayati laboratorium*) [Bio]** Describes the containment principles, technologies and practices that are implemented to prevent the unintentional exposure to pathogens and toxins, or their accidental release.

**Laboratory biosecurity (*Ketahanan hayati laboratorium*) [Bio]** Describes the protection, control and accountability for valuable biological material within laboratories, in order to prevent their unauthorized access, loss, misuse, diversion and unintentional release.

**Leadership (*Kepemimpinan*) [Com]** The task of linking a group/organization with and guiding a group/organization through outside political, technological, economic, and sociocultural forces and institutions. Leaders often focus on an organization's environment while managers often focus on activities inside the organization.

**Learning (*Belajar*) [Com]** Knowledge about ecosystems can be continuously increased and improved, and thereby governance and management can be updated and adapted to changing conditions.

**Learning community (*Komunitas belajar*) [Com]** Groups of people, linked through common location or shared interest, collaborate and work together to address the learning needs of their members.

**Legislation (*Perundang-undangan*) [Bio]** Any act, law, regulation, guideline or other administrative order promulgated by a government.

**Linking social capital (*Modal sosial penghubung*) [Com]** Vertical relationships bridging social strata within a hierarchy where power, social status and wealth are differentially accessed; it involves ties with people/organizations in power/authority.

**Local ecological knowledge** (*Pengetahuan ekologis lokal*) [Com] Knowledge held by a specific group of people about their local ecosystems. This knowledge may be a mix of scientific and practical knowledge; it is sites specific and often involves a belief component. Consequently, LEK differs from traditional ecological knowledge in that it often lacks the dimension of historical and cultural continuity.

**Living modified organism** (*Organisme termodifikasi hidupnya*) [Bio] Any living organism that possesses a novel combination of genetic material through the use of modern biotechnology.

**Lot** (*Lot*) [Bio] A number of units of a single commodity, identifiable by its homogeneity of composition, origin etc., forming part of a consignment.

## M

**Management** (*Manajemen*) [Com] (1) Either the process of supervision, control, and co-ordination of productive activity in industrial and other formal organizations, or the persons performing these functions; (2) the act of directing and controlling the affairs of a business, organization, or other body to ensure that they operate efficiently and effectively, in order to accomplish agreed objectives; (3) the art, science, and technique of getting things done by deployment of material and human resources in a systematic manner, and monitoring how, and how well, they are done; (4) the running of an organization or part of it. Management has perhaps three main components: an organizational skill, an entrepreneurial sense, and an ability to get the best out of followers; (5) the process of arranging the structures, people, work tasks, and technology to achieve the goals of a group of people.

**Mark** (*Tanda*) [Bio] An official stamp or brand, internationally recognized, applied to a regulated article to attest its phytosanitary status.

**Measure or Metric** (*Ukuran*) [Com] Public sector term to describe a standard used to communicate progress on a particular aspect of a programme. Measures typically are quantitative in nature, conveyed in numbers, dollars, percentages, etc. (e.g. \$ of revenue, headcount number, % increase, survey rating average, etc.) though they may be describing either quantitative (e.g. sales made) or qualitative (e.g. employee motivation) information.

**Microbial insecticide** (*Insektisida mikrob*) [Bio] Preparation of living microbes (such as bacteria or fungi) pathogenic to specific groups of insects. See *Bacillus thuringiensis*, *Biological control*.

**Microorganism** (*Mikroorganisme*) [Bio] A protozoan, fungus, bacterium, virus and other microscopic self-replicating biotic entity.

**Mission** (*Misi*) [Soc] (1) Concise statement that describes, in motivating and memorable terms, the current top-level strategic goal of the organization. Usually financial-, process-, or customer service-oriented, with a mid-term (3–5 years) horizon, an

effective mission is inspiring as well as easily understood and communicated; (2) a short, easy to understand statement that communicates to the public what an agency or program is about.

**Mixed methods (*Metode campuran*) [Soc]** (1) A type of research design in which qualitative and quantitative approaches are used in type of questions, research methods, data collection and analysis procedure, and/or inferences; (2) a collection or analysis of both quantitative and qualitative data in single study in which the data are collected concurrently or sequentially, are given priority, and involve integration of the data at once or more stages in the process of research; (3) strategies derived from qualitative and quantitative methods are used to a single project; (4) quantitative data collection strategies are used in a qualitative study or vice versa.

**Model (*Model*) [Soc]** A simplified representation of the real world.

**Modern biotechnology (*Bioteknologi modern*) [Bio]** The application of (a) in vitro nucleic acid techniques, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles; or (b) fusion of cells beyond the taxonomic family; that overcome natural physiological reproductive or recombination barriers and that are not techniques used in traditional breeding and selection.

**Monitoring (*Pemantauan*) [Bio]** (1) Periodic collection and analysis of data on hazards at relevant steps throughout the exposure pathway; (2) the regular and ongoing inspection of areas where pest problems do or might occur.

**Monitoring survey (*Survei pemantauan*) [Bio]** (1) Ongoing survey to verify the characteristics of a pest population.

**Monoculture (*Monokultur*) [Bio]** The agricultural practice of cultivating crops consisting of genetically similar organisms.

**Multidisciplinary (*Multidisipliner*) [Soc]** Researchers in separate disciplines work independently within their own disciplinary perspective, to address a common problem. See *Interdisciplinary*, *Transdisciplinary*.

**Mycorrhizae (*Mikoriza*) [Bio]** Fungi that forms symbiotic relationship with root of more developed plants.

## N

**Nangluk merana (*Nangluk merana*) [Com]** Avoided pest attack ceremony. This ritual still practiced until today by Balinese farmer in effort to keep harmonious relationship with other living creatures such as pests and insects.

**National Plant Protection Organization (NPPO) (*Organisasi Perlindungan Tumbuhan Nasional*) [Bio]** Official service established by a government to discharge the functions specified by the IPPC.

**Natural capital (*Modal alam*) [Com]** Those natural assets that abide in a location including weather, geographic isolation, natural resource, amenities, and natural beauty.

**Natural enemy (*Musuh alami*) [Bio]** An organism which lives at the expense of another organism in its area of origin and which may help to limit the population of the organism. This includes parasitoids, parasites, predators, phytophagous organism and pathogens.

**Naturally occurring (*Terjadi secara alami*) [Bio]** A component of an ecosystem or a selection from a wild population not altered by artificial means.

**Native species (*Spesies asli*) [Bio]** With respect to particular ecosystem, species that, other than result of an introduction, historically occurred, or currently occurs in that ecosystem.

**Network (*Jaringan*) [Soc]** Sets of nodes or vertices joined together, in pairs by links or edges; it can be used to represent a given system in terms of its localized components, i.e. nodes or vertices, and the relations between those components, i.e. links or edges; examples include social network such as acquaintance or friendship networks and collaboration networks, technological networks such as the internet, the World Wide Web and power grids and biological networks such as neural network, food web networks and metabolic networks.

**Network analysis (*Analisis jaringan*) [Soc]** Is a method of research for understanding the structure of a system and is based on graph theory and statistics; network analysis focuses on the relations (links or edges) among actors (nodes or vertices), and not individual actors and their attributes. This means that the actors are usually not sampled independently, as in many other kinds of studies.

**Non-quarantine pest (*Hama bukan karantina*) [Bio]** Pest that is not a quarantine pest for an area.

## O

**Objective (*Tujuan*) [Soc]** A concise statement describing specific, critical, actionable and measurable things an organization must do in order to effectively execute its strategy and achieve its mission and vision. Objectives often begin with action verbs such as increase, reduce, improve, achieve, etc. Whereas the vision and mission statements provide an organizing and mobilizing “rallying cry”, objectives translate the vision and mission into measurable and actionable operational terms; (2) clear, realistic, specific, measurable, and time limited statements of actions which when completed will move towards goal achievement.

**Occurrence (*Kejadian*) [Bio]** The presence in an area of pest officially recognized to be indigenous or introduced and not officially reported to have been eradicated.

**Official (*Resmi*) [Bio]** Established, authorized or performed by a National Plant Protection Organization.

**Official control (*Pengendalian resmi*) [Bio]** The active enforcement of mandatory phytosanitary regulations and the application of mandatory phytosanitary procedures with the objective of eradication or containment of quarantine pests or for the management of regulated non-quarantine pests.

**Open pollination (*Penyerbukan terbuka*) [Bio]** Pollination by wind, insects, or other natural mechanisms.

**Organism (*Organisme*) [Bio]** Any biotic entity capable of reproduction or replication in its naturally occurring state.

**Organization (*Organisasi*) [Com]** A group of people united around achieving a common mission.

**Outbreak (*Wabah*) [Bio]** A recently detected pest population, including an incursion, or a sudden significant increase of an established pest population in an area.

**Outcome (*Luaran*) [Soc]** (1) The results desired from a process expressed in terms of change from the beginning to ending state, e.g. a reduction of risk factors in kids by 5% or an increase in preventive factors in kids by 5%; (2) is the benefits that result as a consequence of an organization's investments and activities. A central concept within logic models, outcomes occur along a path from shorter-term achievements to medium-term and longer-term achievements. They may be positive, negative, neutral, intended, or unintended. Examples of outcomes include changes in knowledge, skill development, behavior, capacities, Decision making, and policy development.

**Output (*Hasil*) [Soc]** Commonly applied within the logic model, outputs describe what an organization gets done; e.g. "what we do" or "what we offer" and may include workshops, delivery of services, conferences, community surveys, facilitation, in-home counseling, etc. Outputs lead to outcomes.

## P

**Packaging (*Paket*) [Bio]** Material used in supporting, protecting or carrying a commodity.

**Pandemic (*Pandemi*) [Bio]** The outbreak of an infectious disease over a large geographical region and affecting a large percentage of the human and/or animal population.

**Paradigm (*Paradigma*) [Soc]** (1) A conceptual model of person's worldview, complete with the assumptions that are associated with that view; (2) a social construction, a historically and culturally embedded discourse practice, and therefore is neither inviolate nor unchanging.

**Parasite (*Parasit*) [Bio]** An organism which lives on or in a larger organism, feeding upon it.

**Parasitism (*Parasitisme*) [Bio]** The close association of two or more dissimilar organisms where the association is harmful to at least one. See *Commensalism*, *Symbiosis*.

**Parasitoid (*Parasitoid*) [Bio]** An insect parasitic only in its immature stages, killing its host in the process of its development, and free living as an adult.

**Participatory action research (PAR) (*Penelitian tindakan partisipatif*) [Soc]** Qualitative research that promotes community involvement to identify issues and to find solutions. PAR aims to contribute both to the practical concerns of people in an immediate problematic situation and to further the goals of social science simultaneously. The active collaboration of the researcher and the research participant/respondent is required to accomplish this dual goal. PAR stresses the importance of co-learning as a primary aspect of the research process.

**Pathogen (*Patogen*) [Bio]** (1) Microorganism causing disease; (2) living organism which can cause disease in another organism.

**Pathogenicity (*Patogenisitas*) [Bio]** The ability of the virus to produce disease in organism.

**Pathway (*Lintasan*) [Bio]** Any means that allows the entry or spread of a pest.

**Permaculture (*Permakultur*) [Bio]** A method/philosophy of working with nature, minimizing energy and chemical use and maximizing biodiversity. A characteristic, but not a necessity, of permaculture, is that it tends to utilize a very large number of species, many times the number of species endemic to a particular area. The effect is to maximize productivity, minimizing farm inputs, while still maintaining genuine sustainability.

**Perception (*Persepsi*) [Com]** Process by which organisms interpret and organize sensation to produce a meaningful experience of the world. Sensation usually refers to the immediate relatively unprocessed result of stimulation of sensory receptors in the eyes, ear, nose, tongue or skin. Perception, on the other hand, better describes one's ultimate experience of the world and typically involves further process of sensory input. In practice sensation and perception are virtually impossible to separate, because they are part of one continuous process.

**Persistence (*Persistensi*) [Bio]** Ability of an organism to remain in a particular setting for a period of time after it is introduced.

**Pesticide (*Pestisida*) [Bio]** (1) A substance that kills harmful organisms (for example, an insecticide or fungicide); (2) a substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. Pesticides can accumulate in the food chain and/or contaminate the environment if they are misused.

**Pest (*Hama*) [Bio]** (1) Crop disturbances created by animals, parasites, and weeds (broad sense). Plant disturbances created by animals, such as insects, mites, nematodes,

mice, squirrel (narrow sense); (2) any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plants product; (3) any of various organisms, such as fungi, insects, rodents, and plants, that harm crops or livestock or otherwise interfere with the well-being of human beings. Weeds are plant pests that grow where they are not wanted—often on cultivated land; (4) an insect, animal, or plant that is a nuisance. In public health, the word is usually applied to insects and animals that not only are annoying but also compete for nourishment and habitat with humans, food crops, or domestic animals.

**Pest categorization (*Kategorisasi hama*) [Bio]** The process for determining whether a pest has or has not the characteristics of a quarantine pest or those of a regulated non-quarantine pest.

**Pest diagnosis (*Diagnosis hama*) [Bio]** The process of detection and identification of a pest.

**Pest free area (*Kawasan bebas hama*) [Bio]** An area in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained.

**Pest free place of production (*Tempat produksi bebas hama*) [Bio]** Place of production in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained for a defined period.

**Pest free production site (*Tapak produksi bebas hama*) [Bio]** A defined portion of a place of production in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained for a defined period and that is managed as a separate unit in the same way as a pest free place of production.

**Pest record (*Catatan hama*) [Bio]** A document providing information concerning the presence or absence of a specific pest at a particular location at a certain time, within an area (usually a country) under described circumstances.

**Pest risk for quarantine pests (*Risiko hama untuk hama karantina*) [Bio]** The probability of introduction and spread of a pest and the magnitude of the associated potential economic consequences.

**Pest risk for regulated non-quarantine pest (*Risiko hama untuk regulasi yang bukan hama karantina*) [Bio]** The probability that a pest in plants for planting affects the intended use of those plants with an economically unacceptable impact.

**Pest risk analysis (*Analisis risiko hama*) [Bio]** The process of evaluating biological or other scientific and economic evidence to determine whether an organism is a pest, whether it should be regulated, and the strength of any phytosanitary measures to be taken against it.

**Pest-risk assessment for quarantine pests (*Penilaian risiko hama untuk hama karantina*) [Bio]** Evaluation of the probability of the introduction and spread of a pest and the magnitude of the associated potential economic consequences.

**Pest-risk assessment for regulated non-quarantine pests (*Penilaian risiko hama untuk regulasi hama yang bukan karantina*) [Bio]** Evaluation of the probability that a pest in plants for planting affects the intended use of those plants with an economically unacceptable impact.

**Pest-risk management for quarantine pests (*Pengelolaan risiko hama untuk hama karantina*) [Bio]** Evaluation and selection of options to reduce the risk of introduction and spread of a pest.

**Pest-risk management for regulated non-quarantine pests (*Pengelolaan risiko hama untuk regulasi hama bukan karantina*) [Bio]** Evaluation and selection of options to reduce the risk that a pest in plants for planting causes an economically unacceptable impact on the intended use of those plants.

**Pest status in an area (*Status hama dalam suatu kawasan*) [Bio]** Presence or absence, at the present time, of a pest in an area, including where appropriate its distribution, as officially determined using expert judgment on the basis of current and historical records and other information.

**Phytosanitary action (*Tindakan fitosanitari*) [Bio]** An official operation, such as inspection, testing, surveillance or treatment undertaken to implement phytosanitary measures.

**Phytosanitary certificate (*Sertifikat fitosanitari*) [Bio]** Certificate patterned after the model certificates of the IPPC.

**Phytosanitary certification (*Sertifikasi fitosanitari*) [Bio]** Use of phytosanitary procedures leading to the issue of a phytosanitary certificate.

**Phytosanitary import requirements (*Persyaratan impor sanitari*) [Bio]** Specific phytosanitary measures established by an importing country concerning consignments moving into that country.

**Phytosanitary legislation (*Perundangan fitosanitari*) [Bio]** Basic laws granting legal authority to a National Plant Protection Organization from which phytosanitary regulations may be drafted.

**Phytosanitary measure (*Aturan fitosanitari*) [Bio]** Any legislation, regulation or official procedure having the purpose to prevent the introduction and/or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests, or to limit the economic impact of regulated non-quarantine pests.

**Phytosanitary procedure (*Prosedur fitosanitari*) [Bio]** Any official method for implementing phytosanitary measures including performance of inspection, tests, surveillance or treatments in connection with regulated pests.

**Phenomenological data (*Data fenomenologis*) [Soc]** Data based on experience and action.

**Physical capital (*Modal fisik*) [Com]** The natural capital and man-made resources (including building and equipment) available to community.

**Phytosanitary regulation (*Regulasi fitosanitari*) [Bio]** Official rule to prevent the introduction and/or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests, including establishment of procedures for phytosanitary certification.

**Place of production (*Tempat produksi*) [Bio]** Any premises or collection of fields operated as a single production or farming unit. This may include production sites which are separately managed for phytosanitary purposes.

**Plant (*Tumbuhan*) [Bio]** All type of vegetation natural resource, both live in land and in water.

**Plant biosecurity (*Ketahanan hayati tumbuhan*) [Bio]** The protection of the economy, environment and human health from negative impacts associated with pests, diseases and weeds.

**Plant Biosecurity Scholarships (*Beasiswa Ketahanan Hayati Tumbuhan*)** Various scholarships are offered by The Cooperative Research Centre for National Plant Biosecurity (CRC NPB) to students wishing to undertake projects in plant biosecurity. Areas of interests include but are not limited to: biology of emergency plant pests, diagnostics, entomology, plant pathology, predictive simulation models, remote sensing, risk analysis, social science and taxonomy.

**Plant pest diagnostics (*Diagnostik hama tumbuhan*) [Bio]** A process of detecting and identifying a plant pest.

**Plant pest detection (*Deteksi hama tumbuhan*) [Bio]** The process of finding an organism either in symptomatic or asymptomatic plant material.

**Plant pest identification (*Identifikasi hama tumbuhan*) [Bio]** A process of ascertaining the taxonomic identity of a plant pest.

**Plant products (*Produk tumbuhan*) [Bio]** Unmanufactured material of plants origin (including grain) and those manufactured products that, by their nature or that of their processing, may create a risk for the introduction and spread of pests.

**Plant quarantine (*Karantina tumbuhan*) [Bio]** All activities designed to prevent the introduction and/or spread of quarantine pests or to ensure their official control.

**Planting, including replanting (*Penanaman, termasuk penanaman kembali*) [Bio]** Any operation for the placing of plants in growing medium, or by grafting or similar operations, to ensure their subsequent growth, reproduction or propagation.

**Plants (*Tumbuhan*) [Bio]** Living plants and parts thereof, including seeds and germplasm.

**Plants for planting (*Tumbuhan untuk penanaman*) [Bio]** Plants intended to remain planted, to be planted or replanted.

**Plants in vitro (*Tumbuhan in vitro*) [Bio]** A commodity class for plants growing in an aseptic medium in a closed container.

**Plasmid (*Plasmid*) [Bio]** A circular DNA molecule, found outside the chromosome in bacteria, capable of autonomous replication, which typically carries one or more genes encoding antibiotic resistance proteins. Plasmids can transfer genes between bacteria and are the principal tools for inserting new genetic information into micro-organisms or plants.

**Plasticity (*Plastisitas*) [Bio]** The ability of stem cells from one adult tissue to generate the differentiated cell types of another tissue.

**PNPM? Mandiri Disadvantaged Areas (*PNPM Mandiri Daerah Tertinggal*) [Com]** An innovative pilot program begun by the Government of Indonesia in November 2006 designed to address governance and policy problems in 51 of the poorest districts across the country. The program's three key objectives are: strengthen local participation in development planning, promote private investment and job creation, and increase utilization of effective education, health, and dispute resolution of effective services. The program builds on other successful community development projects, such as the Kecamatan Development Program (KUD) to align bottom-up planning procedures with the newly empowered district governments of Indonesia. For more information on PNPM Mandiri Disadvantaged Areas, please contact: Ministry of Disadvantaged Areas, email: p2dtk@indosat.net.id.

**Point of entry (*Titik masuk*) [Bio]** Airport, seaport or land border point officially designated for the importation of consignments, and/or entrance of passengers.

**Post-entry quarantine (*Karantina setelah titik masuk*) [Bio]** Quarantine applied to a consignment after entry.

**Pollution (*Polusi*) [Bio]** Contamination of the earth's environment with material that interfere with human health, the quality of life, or the natural functioning of ecosystem. Although some environmental pollution is a result of natural causes like volcanic eruption, most is caused by human activities.

**Policy (*Kebijakan*) [Com]** (1) The outcome of series of decisions and actions by people with varying motivations and differing information; (2) a plan or course of action intended to influence and determine decisions, actions, and other matters.

**Political capital (*Modal politis*) [Com]** The ability of a group to influence standards, regulations and enforcement of those regulations that determine distribution of resources and the ways they are used. Political capital reflects access to power, organizations, connection to resources and power brokers.

**Postmodernism (*Posmodernisme*) [Soc]** A contemporary approach which question or seek to deconstruct both accepted concepts and scientific method.

**Practically free (*Terbebas secara nyata*) [Bio]** A consignment, field, or place of production, without pests (or a specific pest) in numbers or quantities in excess of those that can be expected to result from, and be consistent with good cultural and handling practices employed in the production and marketing of the commodity.

**Pre-clearance (*Izin awal*) [Bio]** Phytosanitary certification and/or clearance in the country of origin, performed by or under the regular supervision of the National Plant Protection Organization of the country of destination.

**Predator (*Pemangsa*) [Bio]** A natural enemy that preys and feeds on the other animal organisms, more than one of which are killed during its life time.

**Principles (*Prinsip*) [Soc]** An elementary proposition, fundamental truth, law or doctrine from which others are derived or on which others are founded. A settled rule of action or a governing law of conduct.

**Problem tree (*Pohon masalah*) [Soc]** Diagrammatic tool that can be generated with the community and government partners to identify core or underlying problems and their root causes and effects.

**Process (*Proses*) [Com]** Types of mechanism and linkages that organizations and individuals (reader and community members) use in decision making and collective actions.

**Prohibition (*Larangan*) [Bio]** A phytosanitary regulation forbidding the importation or movement of specified pests or commodities.

**Protected area (*Kawasan terlindung*) [Bio]** A regulated area that an NPPO has determined to be minimum area necessary for the effective protection of an endangered area.

**Protein (*Protein*) [Bio]** A complex biological molecule composed of a chain of amino acids. Proteins have many different functions: structure (collagen); movement (actin and myosin); catalysis (enzymes); transport (hemoglobin); regulation of cellular processes (insulin); and response to stimuli (receptor proteins on surface of all cells).The information for making proteins is stored in the sequence of nucleotides in the DNA molecule.

**Protocol (*Protokol*) [Com]** A preliminary memorandum often formulated and signed by negotiators as a basis for a final convention or treaty; the records or minutes of a conference or congress that show officially the agreements arrived at by the negotiators; rules for organizational procedures.

**Provisional measure (*Ukuran sementara*) [Bio]** A phytosanitary regulation or procedure established without full technical justification owing to current lack of adequate information. A provisional measure is subjected to periodic review and full technical justification as soon as possible.

## Q

**Qualitative (*Kualitatif*) [Soc]** Subjective, as opposed to quantitative (measured). Common sources of qualitative metrics are surveys of customers, stakeholders or employees.

**Qualitative content analysis (*Analisis isi kualitatif*) [Soc]** (1) An approach of empirical, methodological controlled analysis of texts within their context of communication, following content analysis rules and step by step models, without rash quantification; (2) research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns.

**Qualitative research (*Penelitian kualitatif*) [Soc]** Research that focuses on subjective data that are not easily coded into numbers emphasis is on words and feelings rather than numbers. Qualitative research tends to work with fewer research participants or respondents but analyzes each case on a deeper level. Key qualitative research techniques include focus groups and other observational methods.

**Qualifying (*Mengkualifikasi*) [Soc]** The process by which quantitative data are transformed into data that can be analyzed qualitatively.

**Quantitative (*Kuantitatif*) [Soc]** Measured, as opposed to qualitative (subjective). Quantitative measures often come from transactional systems.

**Quantifying (*Mengkuantifikasi*) [Soc]** Converting qualitative data into numerical codes that can be statistically analyzed.

**Quarantine (*Karantina*) [Bio]** Official confinement of regulated articles for observation and research or for further inspection, testing and/or treatment.

**Quarantine area (*Kawasan karantina*) [Bio]** An area within which a quarantine pest is present and is being officially controlled.

**Quarantine pest (*Hama karantina*) [Bio]** A pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled.

**Quarantine station (*Stasiun karantina*) [Bio]** Official station for holding plants or plant products in quarantine.

## R

**Raw wood (*Kayu mentah*) [Bio]** Wood which has not undergone processing or treatment.

**Re-exported consignment (*Pengeksporan kembali barang kiriman*) [Bio]** Consignment that has been imported into a country from which it is then exported. The consignment may be stored, split up, combined with other consignment or have its packaging changed.

**Reference specimens (*Spesimen acuan*) [Bio]** An individual specimens from a specific population conserved in a reference culture collection and, where possible, in publicly available collections.

**Refusal (*Penolakan*) [Bio]** Forbidding entry of a consignment or other regulated article when it fails to comply with phytosanitary regulations.

**Regional Plant Protection Organization (RPPO) (*Organisasi Perlindungan Tanaman Regional*) [Bio]** An intergovernmental organization with the functions lay down by Article IX of the IPPC.

**Regional standards (*Standar regional*) [Bio]** Standards established by a Regional Plant Protection Organization for the guidance of the members of that organization.

**Regulated area (*Kawasan teregulasi*) [Bio]** An area into which, within which and/or from which plants, plant products and other regulated articles are subjected to phytosanitary regulations or procedures in order to prevent the introduction and/or spread of quarantine pests or to limit the economic impact of regulated non-quarantine pests.

**Regulated article (*Barang teregulasi*) [Bio]** Any plant, plant product, storage place, packaging, conveyance, container, soil and any other organism, object or material capable of harboring or spreading pests, deemed to require phytosanitary measures, particularly where international transportation is involved.

**Regulated non-quarantine pest (*Hama bukan karantina yang diregulasi*) [Bio]** A non-quarantine pest whose presence in plants for planting affects the intended use of those plants with an economically unacceptable impact and which is therefore regulated within the territory of the importing contracting party.

**Regulated pest (*Hama teregulasi*) [Bio]** A quarantine pest or a regulated non-quarantine pest.

**Release into the environment (*Pelepasan ke dalam lingkungan*) [Bio]** Intentional liberation of an organism into the environment.

**Release of a consignment (*Pelepasan barang kiriman*) [Bio]** Authorization for entry after clearance.

**Replanting (*Penanaman kembali*) [Bio]** See *Planting*.

## S

**Sampling (*Pencuplikan*) [Soc]** Selecting unit (e.g. events, people, groups, setting, artifacts) in manner that maximizes the researcher's ability to answer research questions that are set forth in a study.

**Sample (*Contoh*) [Bio]** Material that is derived from a specimen and used for testing purposes.

**Sanction (*Sangsi*) [Com]** That which provides someone authority or legitimacy to do something.

**Semi-structured interview** (*Wawancara semi-terstruktur*) [Soc] Method of obtaining community input with the use of an interview guide mostly composed of open-ended and probe questions done in a conversational manner either with an individual or group.

**Sanitizer** (*Penyanitasi*) [Bio] Reduces vegetative cells, but not the spores, of bacteria to a safe level as may be judged by public health requirements (by reduction of 99.9% of vegetative bacteria).

**Sasi** [Com] The spatial and temporal closure of groves, forests, coral reefs and fishing grounds, is a traditional feature of many Moluccan societies; despite increasing domestic and international awareness and praise of this “indigenous resource conservation technology”, the institution is in decline in many parts of the Moluccas, and on many islands it is no longer practiced at all.

**Secondary data** (*Data sekunder*) [Soc] Data that were originally collected at an earlier time by different person from current research purpose, often for entirely different purpose.

**Seeds** (*Benih*) [Bio] A commodity class for seeds for planting or intended for planting and not for consumption or processing. See *Grain*.

**Self organization** (*Organisasi diri sendiri*) [Soc] The process by which systems use energy to develop structure and organization.

**Semiotics analysis** (*Analisis semiotika*) [Soc] Method of qualitative research that is primarily concerned with the meaning of signs and symbols in language. The essential idea is that words/signs can be assigned to primary conceptual categories, and these categories represent important aspects of the theory to be tested. The importance of an idea is revealed in the frequency with which it appears in the text. There are three forms of semiotic analysis, i.e. content analysis, conversation analysis and discourse analysis.

**Sensitivity analysis** (*Analisis kepekaan*) [Soc] A method used to examine the behavior of a model by measuring the variation in its outputs resulting from changes to its inputs.

**Socially/culturally remedial** (*Pemulihan secara sosial/budaya*) [Com] Works which seek to change, inform, or mediate cultural/social ideologies and/or beliefs and behaviors.

**Social development** (*Pembangunan sosial*) [Com] An approach to build community by enabling, teaching, and motivating people and local organizations for self-help, e.g. facilitated self-help. It is also referred to as community development or locality development.

**Social indicator** (*Indikator sosial*) [Com] A measure reflecting the status of a population (e.g. age range, income level, education attainment), and contextual influences (e.g. social, economic, ecological, and political influences).

**Sylvopastural systems (*Sistem silvopastura*) [Com]** Agroforestry systems covering forestry component (or woody plant) with the livestock component (or pasture), for example trees and shrubs on pastures, or integrated production of animals and wood products.

**Social-ecology (*Ekologi-sosial*) [Soc]** (1) A way of integrating the practice of science, the use of technology, and the expression of human values. It draws from any “body of knowledge” in its pursuit of designing activities that result in self-respecting, sensitive and social behaviors which show an awareness of social and ecological responsibilities. The context for action and the subsequent critical reflection on the consequences of those actions need to involve the actor’s relationship with the physical environment, the cultural setting and its history, organizational aspects, and an understanding of the constraints and possibilities set by an individual’s cognitive processes; (2) the view that environmental problems arise from fundamental social problems, and that they cannot be understood or solved without dealing with problems within society, including economic, ethnic, cultural, and gender conflicts.

**Social-ecological system (*Sistem sosial-ekologis*) [Soc]** An ecological system intricately linked with and affected by one or more social systems; it can be represented as a social-ecological network by the different attributes of the system that would be used to draw a structural map, e.g. trust, information, power, movement of cattle, contamination, seed dispersal. For each network of particular attributes, we can analyze the properties of the network. The network consists of both human and social nodes and nonhuman or ecological nodes, plus their connections, which represent the various attributes.

**Social capital (*Modal sosial*) [Com]** (1) Social structures and characterized as a ‘public good’ and is equal with financial capital, physical capital and human capital; (2) features of social organization such as networks, norms and social trust that facilitate coordination and cooperation for mutual benefit; (3) the connections among people and organizations or the social glue to make things, positive or negative happen; (4) a capability that arises from the prevalence of trust in a society or in certain parts of it. It can be embodied in the smallest and most basic social group, the family, as well as the largest of all groups, the nation, and in all other groups in between; (5) the social norms and relationship that hold a community’s social structure together and make it possible for people to coordinate activities in order to achieve common goals; (6) resources embedded in a social structure which are accessed and/or mobilized in purposive actions; (7) the norms and networks that facilitate collective action; (8) generally defined as the series of relationships, networks and norms that facilitate collective action; (9) the network, together with shared norms, values and understanding, which facilitate cooperation or among groups; (10) the essence of social capital is based on quality social connection that bring mutual relationship of trust, reciprocity and cooperation; (11) the cohesiveness of people in their communities (various scales). Comprises relations of trust, reciprocity and exchanges between individuals which facilitate

co-operation; the bundles of common rules, norms and sanctions mutually agreed or handed down within societies; the connectedness, networks and groups which may be formal or informal, horizontal or vertical, and between individuals or organizations; and access to wider institutions of society beyond the immediate household or community.

**Social learning (*Pembelajaran sosial*) [Com]** (1) Learning of individual in social environment by observation and imitation others; learning together to manage together or multiparty processes; (2) the acquisition of social competence that happens exclusively or primarily in a social group. Social learning depends on group dynamics. Social learning promotes the development of individual emotional and practical competence as well as the perception of oneself and the acceptance of others with their individual competencies and limitations; (3) forms of knowledge embedded in local experience; its plastic, local and divergent; its contextualities, and its fragmentation that make it so permeable, so open new ideas.

**Social memory (*Ingatan sosial*) [Com]** Collective memory/experiences to be used in times of change and uncertainty.

**Social network analysis (*Analisis jaringan sosial*) [Com]** A quantitative socio-ecological technique that maps and analyses the structural relationships between people in a social network.

**Social resilience (*Daya lenting sosial*) [Com]** The ability of communities to withstand external shocks to their social infrastructure. This is particularly apposite for resource-dependent communities where they are subject to external stresses and shocks, both in the form of environmental variability (such as agricultural pests or the impacts of climatic extremes), as well as in the form of social, economic and political upheaval (associated with the variability of world markets for primary commodities, or with rapid changes in property laws or state interventions).

**Social science (*Ilmu sosial*) [Soc]** (1) The systematic study of society and human relationship within society; (2) the study of people living together in groups, families, etc., their customs, activities, etc; (3) it comprises academic disciplines concerned with the study of social life of human groups and individual, including anthropology, communication study, human geography, history, political science, psychology and sociology.

**Social vulnerability (*Kerentanan sosial*) [Com]** The exposure of groups of people or individuals to stress as a result of the impacts of environmental change. Stress, in the social sense, encompasses disruption to groups' or individuals' livelihoods and forced adaptation to the changing physical environment. Social vulnerability in general encompasses disruption to livelihoods and loss of security. For vulnerable groups such stresses are often pervasive and related to the underlying economic and social situation, both of lack of income and resources, but also to war, civil strife and other factors. For natural ecosystems, vulnerability can occur when individuals or communities of species are stressed, and where thresholds of potentially irreversible changes are experienced through environmental changes.

**Society (*Masyarakat*) [Com]** The myriad of ways people connect, linked by common interest and characteristic; society can be viewed as a market in which people exchange all variety of good and ideas in pursuit of their interests. Certain people or certain groups of people do better in the sense of receiving higher return for their effort.

**Spread (*Penyebaran*) [Bio]** Expansion of the geographical distribution of a pest within an area.

**Sporicide (*Sporisida*) [Bio]** Kills all microorganisms including bacterial endospores, a very resistant form of certain microorganisms, which develop as a means of survival under adverse conditions.

**Stakeholder (*Pemangku kepentingan*) [Soc]** (1) Internal stakeholders are risk assessors, risk managers and risk communicators employed by the competent authority; external stakeholders are other branches of government and foreign governments, competent bodies, industry, academic communities and public interest groups; (2) parties having an interest in a particular project or outcome.

**Standard (*Standar*) [Bio]** Document established by consensus and approved by a recognized body that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context.

**Strategy (*Strategi*) [Com]** The way an organization seeks to achieve its vision and mission. It is a forward-looking statement about an organization's planned, use of resources and deployment capabilities. Strategy becomes real when it is associated with: (1) a concrete set of goals and objectives; and (2) a method involving people, resources and processes.

**Steady state (*Keadaan tunak*) [Bio]** A constant pattern e.g. a balance of inflows and outflows.

**Sterile insect (*Serangga steril*) [Bio]** An insect that, as a result of a specific treatment, is unable to reproduce.

**Sterile insect technique (*Teknik serangga steril*) [Bio]** Method of pest control using area-wide inundative release of sterile insects to reduce reproduction in a field population of the same species.

**Stored product (*Produk yang disimpan*) [Bio]** Unmanufactured plant product intended for consumption or processing, stored in a dried form (this includes in particular grain and dried fruits and vegetables).

**Structure (*Struktur*) [Com]** Community organization and their informal and formal connections to both government and community leadership.

**Supporting service (*Jasa pendukung*) [Bio]** Ecosystem services that are necessary for the production of all other ecosystem services e.g. biomass production, production of atmospheric oxygen, soil formation, nutrient and water cycling.

**Suppression (*Penindasan*) [Bio]** The application of phytosanitary measures in an infested area to reduce pest populations.

**Surveillance (*Pengawasan*) [Bio]** Active and ongoing collection, analysis and dissemination of data on risks to life and health.

**Sustainability (*Kelestarian*) [Com]** Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

**System (*Sistem*)** A set of parts organized into a whole, usually processing a flow of energy.

**Systems approaches (*Pendekatan sistem*) [Bio]** The integration of different risk management measures, at least two of which act independently, and which cumulatively achieve the appropriate level of protection against regulated pests.

## T

**Transdisciplinary (*Lintas disiplin*) [Soc]** Researchers work jointly using a shared conceptual framework that draws together discipline-specific theories, concepts, and approaches, to address a common problem. See *Multidisciplinary*, *Interdisciplinary*.

## U

**Urban ecology (*Ekologi urban*) [Bio]** The application of the principles of ecology to a study of urban environments. Urban ecologists look at individual areas of the city – natural areas – in the context of the whole city, and focus on the way a population organizes.

## V

**Validation (*Validasi*) [Bio]** (1) A process to determine a procedure's/protocol's fitness for a particular use and includes procedure optimisation and demonstration of performance characteristics and evaluation of sensitivity and specificity; (2) the extent to which an account accurately represents the social phenomena to which it refers; (3) objective demonstration that biosecurity controls are effective in achieving stated outcomes.

**Vector (*Vektor*) [Bio]** A carrier of an infectious agent.

**Venn diagram (*Diagram Venn*) [Soc]** A tool for illustrating relationships and relative influence of institutions, issues, or problems related to an area or project.

**Verification (Pembuktian) [Bio]** Activities that are performed, in addition to monitoring, to determine whether a biosecurity control is or has been operating as intended.

**Virucide (*Virusida*) [Bio]** Kills or inactivates viruses.

**Virulence (*Virulensi*) [Bio]** The degree of ability of an organism to cause disease.

**Virus (*Virus*) [Bio]** An infectious particle composed of a protein capsule and a nucleic acid core, which is dependent on a host organism for replication.

**Vision (*Visi*) [Com]** A concise statement defining an organization's long-term direction, the vision is a summary statement of what the organization ultimately intends to become 5, 10 or even 15 years into the future. It is the organization's long-term "dream", what it constantly strives to achieve, its "raison d'être". A powerful vision provides everyone in the organization with a shared mental framework that helps give shape to its abstract future. An effective vision statement provides as concrete a picture of the desired state as possible, as well as provides the basis for formulating strategies and objectives.

**Visual examination (*Pemeriksaan visual*) [Bio]** The physical examination of plants, plant products, or other regulated articles using the unaided eye, lens, stereoscope or microscope to detect pests or contaminants without testing or processing.

## W

**Waste (*Limbah*) [Com]** A residue from trade and/or activity.

**Weeds (*Gulma*) [Bio]** Plant pests that grow where they are not wanted—often on cultivated land.

**Wild animal (*Satwa liar*) [Bio]** All of animal life in land, and/or water, and/or air, which still has its wild characters, both lives freely and is maintained by human.

**Wild plant (*Tumbuhan liar*) [Bio]** Plant lives in free nature and/or maintained, which still has its pureness type.

**Wood packaging material (*Materi kemasan dari kayu*) [Bio]** Wood or wood products (excluding paper products) used in supporting, protecting or carrying a commodity (includes dunnage).

## X

**Xenotransplantation (*Senotransplantasi*) [Bio]** Transplant of tissue from one species to another species.

**Y**

**Yame Owa [Com]** House for men, in Papua is a final result method trialed over years. The culture of Yame Owa is still practiced and adhered to by the Mee tribe (Mee means 'a true man'), who live in the mountainous areas in the heart of Papua. The tribe settled in Wiselmaren lakes, Kamuu, Mapia, and Siriwo regions; it is uniting idea, feeling, and perspective, and is orientated towards a dialog process to solve problems that occur within community; is a media to socialize the value of culture through communication; it is even considered as a guideline for the Mee tribe to understand the universe, and based on the view of the Mee people that a human being should live, see, think, do and see the future based on strong Yame Owa.

**Z**

**Zoonoses (Zoonoses) [Bio]** Infectious diseases that can be transmitted naturally between wild or domestic animals and humans.

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