Open Working Group on Sustainable Development Goals

Glossary on "Sustainable agriculture, food security and nutrition" (Proposed Goal 2 of OWG "zero draft")

This document aims at providing decision-makers and stakeholders with technical background information, definitions, references and sources for further reading on some of the terms and concepts related to sustainable agriculture, food security and nutrition. The authors do not claim to provide a complete list of sources and references to international treaties, conventions, etc.

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A

AGRICULTURAL BIODIVERSITY is a broad term that includes all components of biological diversity of relevance to food and agriculture, and all components of biological diversity that constitute the agricultural ecosystems, also named agro-ecosystems: the variety and variability of animals, plants and micro-organisms, at the genetic, species and ecosystem levels, which are necessary to sustain key functions of the agro-ecosystem, its structure and processes.[1]

References: CBD COP-5 decision V/5[2]*; Agricultural Technology for Development: Report of the Secretary-General (A/68/308)*[3]*.*

AGRO-ECOLOGY is the science and practice of applying ecological concepts and principles to the study, design and management of the ecological interactions within agricultural systems (e.g. relations between and among biotic and abiotic elements). This systemic approach to agriculture and food systems development is based on a wide variety of knowledge, technologies, practices and innovations including local and traditional knowledge as well as modern science.[4]

References: Report submitted by the Special Rapporteur on the right to food, Olivier De Schutter (A/HRC/16/49)[5]*; Agricultural Technology for Development: Report of the Secretary-General (A/68/308)*[6]*.*

AGRO-FORESTRY is a dynamic, ecologically-based, natural resources management system that seeks to preserve, through the integration of trees into agriculturally productive landscapes, the crucial role that trees play in almost all terrestrial ecosystems, providing a range of products and services that benefit rural and urban people socially, economically, and environmentally.[7]

References: Terminology for integrated resource planning and management, 1999 - X2079E; Natural Resources Management and Environment Department, NR, FAO, 2009; KCCM, FAO, 2009.

AGRO-INDUSTRY is a broad concept that refers to the establishment of enterprises and supply chains for developing, transforming and distributing specific inputs and products in the agricultural sector. Agro-industry is capital-intensive and aims to substitute human and animal labour with machinery and purchased inputs. The term agro-industry can also refer to commercialization and value addition

1 http://www.cbd.int/agro/whatis.shtml
2 http://www.cbd.int/decision/cop/?id=7147
3 http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N13/425/45/PDF/N1342545.pdf?OpenElement
4 http://www.fao.org/organicag/oag-glossary/en/
5 http://wocan.org/system/tdf/un_report_on_agroecology_and_the_right_to_food.pdf?file=1&type=node&id=120
6 http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N13/425/45/PDF/N1342545.pdf?OpenElement
7 http://www.fao.org/docrep/013/am237e/am237e00.pdf

in the agricultural sector with a focus on pre- and post-production enterprises and building linkages among enterprises.[8]

References: Agro Industries for Development[9].

B

BIOTECHNOLOGY is a broad term embracing the manipulation of living organisms and spans a wide range of activities from conventional techniques for fermentations and plant and animal breeding to recent innovations in tissue culture, irradiation, genomics and marker-assisted breeding (MAB).

References: International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) 2009[10].

C

CLEAN AND ENVIRONMENTALLY SOUND TECHNOLOGIES include all technologies that support sustainable economic growth by reducing and cleaning up pollution, cutting down on the use of energy and other material resources, and increasingly by preventing pollution and waste through cleaner production and recycling.[11] Clean and environmentally sound technologies stem from discussions held in regards to the development of technology facilitation mechanisms.[12] Agenda 21 articulated the "need for favorable access to and transfer of environmentally sound technologies, in particular to developing countries, through supportive measures that promote technology cooperation and enables the transfer of necessary technological know-how as well as building up of economic, technical, and managerial capabilities for the efficient use and further development of transferred technology."[13]

References: Options for a facilitation mechanism that promotes the development, transfer and dissemination of clean and environmentally sound technologies: Report of the Secretary-General (A/67/348)[14]*; Resolution "Science, technology and innovation for development", adopted by the General Assembly on 20 December 2013 (A/RES/68/220)*[15]*; Rio+20 Outcome Document (para 273)*[16].

CLIMATE SMART AGRICULTURE (CSA) is an approach to developing the technical, policy and investment conditions to achieve sustainable agricultural development for food security under climate change, while preserving the natural resources base.

References: Climate Smart Agriculture Source Book[17].

COMMITTEE ON WORLD FOOD SECURITY (CFS) was set up in 1974 as an intergovernmental body to serve as a forum for review and follow up of food security policies. In 2009 the CFS went through a reform process to ensure that the voices of other stakeholders were heard in the global debate on food security and nutrition. The CFS reports annually to ECOSOC.[18] At its 40th session in October 2013, the CFS mandated the Bureau to explore ways for the CFS to provide inputs to the decision-making pro-

8 http://termportal.fao.org/faoterm/main/start.do (type "agro-industry")
9 http://www.fao.org/docrep/017/i3125e/i3125e00.pdf
10 http://www.fao.org/fileadmin/templates/est/Investment/Agriculture_at_a_Crossroads_Global_Report_IAASTD.pdf
11 http://regency.org/suspdf/ch2.pdf
12 http://sustainabledevelopment.un.org/content/documents/1299un-women.pdf
13 http://www.fao.org/docrep/018/i3325e/i3325e19.pdf
Lists of possible technologies can be found at http://www.infonet-biovision.org or http://teca.fao.org
14 http://www.un.org/ga/search/view_doc.asp?symbol=A/67/348&Lang=E
15 http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/68/220
16 http://www.uncsd2012.org/content/documents/774futurewewant_english.pdf
17 http://www.fao.org/docrep/018/i3325e/i3325e.pdf
18 http://www.fao.org/cfs

cess on the post-2015 development agenda in New York. A possible CFS major workstream could be launched in 2016 to develop a framework for implementing the post-2015 agenda on issues related to sustainable agriculture, food security and nutrition (to be decided at CFS Plenary 2015, i.e. once the post-2015 will be adopted). To pave the way for this possible CFS major workstream, the Committee will start working in 2015 on its role in facilitating country-initiated multistakeholder assessments on sustainable food systems, food security and nutrition (as described in para 115 of the Rio+20 Outcome document).

References: CFS 2013/40/9 Rev.1 CFS Multi-Year Programme of Work (MYPoW)[19].

CONSERVATION AGRICULTURE can be defined as a concept for resource-saving agricultural crop production that strives to achieve acceptable profits together with high and sustained production levels while concurrently conserving the environment. Its three main principles are: minimal soil disturbance, permanent soil cover and crop rotations.[20]

COUNTRY-INITIATED MULTI-STAKEHOLDER ASSESSMENTS on food and nutrition security, sustainable agriculture and food systems are instrumental to provide decision-makers with the analysis to shape effective national policies and strategies in order to increase food security, promote sustainable agriculture and reduce rural poverty. These assessments are an integral part of inclusive and transparent decision-making processes to accelerate progress towards national goals and targets. The CFS is currently exploring options how to facilitate country-initiated, multi-stakeholder assessments, based on the mandate outlined in the Rio+20 outcome document.

References: Rio+20 Outcome Document (para 115)[21].

D

DROUGHT PREPAREDNESS POLICIES are strategies and priorities established by affected countries, individually or jointly, to combat desertification and mitigate the effects of drought, including strengthening of drought preparedness and management.

References: Rio+20 Outcome Document (para 207); United Nations Convention to Combat Desertification (articles 4-5)[22]*; ICCD/COP(8)/16/Add.1 (Annex Strategic Objective 4)*[23]*; Final Declaration of the High Level Meeting on National Drought Policy (HMNDP) 11-15 March 2013*[24].

E

ECOSYSTEM is a dynamic complex of plant, animal and micro-organism communities and their non-living environments interacting as a functional unit.

Reference: Convention on Biological Diversity, Article 2 of the Convention[25]

ECOSYSTEM MANAGEMENT is an approach to natural resource management that focuses on sustaining or restoring ecosystems to meet both ecological and human needs in the future. Ecosystem man-

19 http://www.fao.org/docrep/meeting/029/MI036e.pdf

20 http://www.fao.org/ag/ca/

21 http://www.uncsd2012.org/content/documents/774futurewewant_english.pdf

22 http://www.unccd.int/Lists/SiteDocumentLibrary/conventionText/conv-eng.pdf

23 http://www.unccd.int/Lists/OfficialDocuments/cop8/16add1eng.pdf

24 http://www.unccd.int/Lists/SiteDocumentLibrary/HLM%20drought%20national%20policies/HMNDP%20matrial%202013/HMNDP_Final_Declaration.pdf

25 http://www.cbd.int/ecosystem/

agement is adaptive to changing environments, needs and new information. It promotes a shared vision of a desired future by integrating social, environmental and economic perspectives into managing geographically defined natural ecological systems.[26]

F

FOOD LOSS refers to the decrease in edible food mass throughout the *part of the* supply chain that specifically leads to edible food. Food losses take place at production, post-harvest and processing stages in the food supply chain. In particular, "food loss" refers to food that spills, spoils, incurs an abnormal reduction in quality such as bruising or wilting, or otherwise gets lost before it reaches the consumer. Food loss is the unintended result of an agricultural process or technical limitation in storage, infrastructure, packaging, or marketing. It includes the usage of human-edible food for purposes other than direct human-consumption, such as animal feed. Food losses have an impact on food security for poor people, on food quality and safety, on economic development and on the environment.[27]

References: Agricultural Development and Food Security: Report of the Secretary-General (A/67/294)[28]; Rio+20 Outcome Document (para 110).

FOOD PRICE VOLATILITY (price fluctuations of agricultural commodities) is a common feature of well-functioning agricultural product markets. But when these become large and unexpected – volatile – they can have a negative impact on the food security of consumers, farmers and entire countries. Reasons for food price volatility can mainly be found in the market fundamentals – strong demand from developing economies facing shortages of supply caused by weather shocks in key producing and exporting countries in a situation of low stock levels. These causes can be exacerbated by additional factors: climate change, changes in the geography of production, external economic shocks, (wrong) policy responses, linkages to the energy markets, and changes in exchange rates. There is also growing attention on the correlation and causality between speculation in the commodity markets and food price volatility but empirical evidence is still needed.[29]

References: Rio+20 Outcome Document (para 116, 117); Resolution "Commodities", adopted by the General Assembly on 20 December 2013 (A/RES/68/203)[30]; Agricultural Market Information System (AMIS)[31].

FOOD SECURITY exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.[32]

FOOD SYSTEMS encompass all the activities, actors and ecosystems that relate to the production, processing, distribution, preparation and consumption of food. A food system also includes the inputs needed and outputs generated by each of these activities as well as their outcomes, insofar as they contribute to food and nutrition security. Such outcomes include food availability, access, use and waste. A food system operates within, and is defined by, social, economic and environmental contexts. Interactions between and within those contexts influence both activities and outcomes.[33] Ac-

[26] http://www.unep.org/ecosystemmanagement/Introduction/tabid/293/language/en-US/Default.aspx
http://www.unep.org/ecosystemmanagement/Portals/7/Documents/Ecosystems-Management-Introduction.pdf

[27] http://www.fao.org/docrep/014/mb060e/mb060e00.pdf
http://www.unep.org/pdf/WRI-reducing_food_loss_and_waste.pdf

[28] http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N12/459/69/PDF/N1245969.pdf?OpenElement

[29] http://www.fao.org/fileadmin/templates/est/meetings/price_volatility/Price_volatility_TechPaper_V3_clean.pdf

[30] http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/68/203

[31] http://www.amis-outlook.org

[32] http://www.fao.org/docrep/003/w3613e/w3613e00.HTM

[33] http://www.fao.org/fileadmin/templates/ags/docs/SFCP/WorkingPaper4.pdf

cording to the CFS High Level Panel of Experts on Food Security and Nutrition, a sustainable food system is a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised.[34]

References: Towards the Future We Want: End hunger and make the transition to sustainable agriculture and food systems[35]*.*

FOOD WASTE refers to food that is of good quality and fit for human consumption but that does not get consumed because it is discarded – either before or after it spoils at either the consumer or retail level. Food waste is the result of negligence or a conscious decision to throw food away. Food waste in industrialized countries can be reduced by raising awareness among food industries, retailers and consumers.[36]

References: Agricultural Development and Food Security: Report of the Secretary-General (A/67/294)[37]*; Rio+20 Outcome Document (para 110).*

G

GENETICALLY MODIFIED ORGANISM (GMO) is an organism in which one or more genes (called transgenes) have been introduced into its genetic material from another organism using recombinant DNA technology. For example, the genes may be from a different kingdom (such as from a bacterium to a plant) or a different species within the same kingdom (e.g. from one plant species to another).[38] GMOs are developed to improve crops' nutrition values, productivity and resilience. Environmental threats and degradation and dependencies of small-scale producers are among the contentious issues related to GMOs.

References: Agricultural Technology for Development: Report of the Secretary-General (A/68/308, para 34-35)[39]*.*

I

INTEGRATED PEST MANAGEMENT integrates and applies practical management methods to manage insect populations to keep pest species from reaching damaging levels while avoiding or minimizing the potentially harmful effects of pest managements measures on humans, non-target species and the environments. The FAO's Panel of Experts on Integrated Pest Control (1967) defined integrated pest management as: A pest management system that, in the context of the associated environment and the population dynamics of the pest species, utilizes all suitable techniques and methods in as compatible manner as possible and maintains the pest populations at levels below those causing economic injury.[40]

References: International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) 2009[41]*.*

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34 http://www.fao.org/fileadmin/user_upload/hlpe/hlpe_documents/HLPE_S_and_R/HLPE_2014_Food_Losses_and_Waste_Summary_EN.pdf (Para 8)

35 http://www.fao.org/docrep/015/an894e/an894e00.pdf

36 http://www.fao.org/docrep/014/mb060e/mb060e00.pdf

37 http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N12/459/69/PDF/N1245969.pdf?OpenElement

38 http://www.fao.org/fileadmin/user_upload/biotech/docs/faqsen.pdf

39 http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N13/425/45/PDF/N1342545.pdf?OpenElement

40 Flint, M. L. & van den Bosch, R. (1981): Introduction to Integrated Pest Management. Plenum Press, New York.

41 http://www.fao.org/fileadmin/templates/est/Investment/Agriculture_at_a_Crossroads_Global_Report_IAASTD.pdf

IRRIGATION refers to the controlled use of water to supplement rainfall (note that flooded land is not termed "irrigated" unless the water is in some way controlled). Broadly, five irrigation methods exist with differing degrees of efficiencies and adapted to different contexts: surface irrigation; sprinkle irrigation; drip irrigation; subsurface exuders (introducing water directly into the roots); and sub-irrigation (raising water-table from below).[42]

L

LAND-DEGRADATION NEUTRAL WORLD is an aspirational goal that emphasizes the need for urgent action to reverse land degradation and to strive to achieve a land-degradation neutral world in the context of sustainable development.[43] To achieve this goal, land degradation should be avoided and for every hectare of degraded land a hectare of land should be restored preferably in the same ecosystem and landscape. A land-degradation neutral world is a prerequisite for assuring water, food and energy security, alleviating poverty and mitigating climate change. Land degradation directly affects 1.5 billion people and costs about USD 40 billion each year.[44]

References: Rio+20 Outcome Document (para 206); Resolution "Implementation of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa", adopted by the General Assembly on 21 December 2012 (A/RES/67/211)[45].

LAND TENURE is the relationship, whether legally or customarily defined, among people, as individuals or groups, with respect to land and associated natural resources (water, trees, minerals, wildlife, etc.). Land tenure systems determine who can use what resources, for how long, and under what conditions.

References: International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) 2009[46].

LANDSCAPE APPROACH encompasses both a geographical and socio-economic approach to managing the land, water and forest resources that form the foundation – the natural capital – for meeting our goals of food security and inclusive green growth.[47]

M

MALNUTRITION is an abnormal physiological condition caused by deficiencies, excesses or imbalances in energy and/or nutrients necessary for an active, healthy life. Malnutrition includes undernutrition, overnutrition, and micronutrient deficiencies.[48]

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42 http://www.fao.org/docrep/w3094e/w3094e05.htm

43 http://www.unccd.int/Lists/SiteDocumentLibrary/Parliament/2013/Land%20degradation%20Neutrality%20in%20the%20post%202015.pdf

44 http://eld-initiative.org/fileadmin/pdf/ELD_Interim_Report_Summary_2013_2_1.pdf
http://www.unccd.int/Lists/SiteDocumentLibrary/WDCD/DLDD%20Facts.pdf

45 http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N12/491/26/PDF/N1249126.pdf?OpenElement

46 http://www.fao.org/fileadmin/templates/est/Investment/Agriculture_at_a_Crossroads_Global_Report_IAASTD.pdf

47 http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTARD/0,,contentMDK:23219902~pagePK:148956~piPK:216618~theSitePK:336682,00.html

48 http://termportal.fao.org/faoterm/main/start.do (type „malnutrition", „undernutrition", „overnutrition", „micronutrient deficiency")

References: Agricultural Development and Food Security: Report of the Secretary-General (A/67/294)[49]*; Universal Declaration on the Eradication of Hunger and Malnutrition*[50]*.*

N

NUTRITION SECURITY exists when all people at all times consume food of sufficient quantity in calories and quality in terms of variety, diversity, nutrient content and safety to meet their dietary needs and food preferences for an active and healthy life, coupled with a sanitary environment, adequate health, education and care.[51] Nutrition security differs from food security in that it also considers the aspects of adequate caring practices, health and hygiene in addition to dietary adequacy.[52]

O

ORGANIC AGRICULTURE is a holistic production management system that promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices rather than the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, cultural, biological and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system. Terms such as diverse, biological and ecological are also used in an effort to describe the organic system. Organic production systems are based on specific and precise standards of production which aim at achieving optimal agro-ecosystems which are socially, ecologically and economically sustainable.[53]

References: Agricultural Technology for Development: Report of the Secretary-General (A/68/308)[54]*.*

R

RESEARCH AND TECHNOLOGY TRANSFER refers to the available and accessible scientific and technological knowledge which can be shared as a means to influence food system activities. Scientific and technological innovations, together with appropriate financial resources for their diffusion, can support the shift to sustainable food system activities. The shift to sustainable food system activities needs to be accompanied by substantial increases in knowledge-intensive technologies that enhance decision making at the field level. This requires redirecting and increasing investments into sustainable farming systems and into technologies that are environmentally sound, accessible and affordable for small-scale farmers.[55] The effectiveness of investments in public agricultural R&D is high: developing countries achieved an estimated return on investment (ROI) from agricultural R&D of over 40 per

[49] http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N12/459/69/PDF/N1245969.pdf?OpenElement

[50] http://www.ohchr.org/EN/ProfessionalInterest/Pages/EradicationOfHungerAndMalnutrition.aspx

[51] Nutrition Division/Meeting Programming and Documentation Service, FAO, 2013 (MI198) adapted from the Evaluation of FAO's Role and Work in Nutrition, Final Report, Office of Evaluation, FAO, 2011 (MB663).
http://www.fao.org/docrep/meeting/023/mb663E01.pdf
A Road Map for Scaling Up Nutrition (SUN), First edition, United Nations, September 2010.
http://unscn.org/files/Activities/SUN/SUN_Road_Map_english.pdf

[52] http://termportal.fao.org/faoterm/main/start.do (type „nutrition security")

[53] http://www.organic-world.net/yearbook-2014.html
http://termportal.fao.org/faooa/oa/pages/pdfFiles/OA-en-ar.pdf

[54] http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N13/425/45/PDF/N1342545.pdf?OpenElement

[55] http://www.unep.org/dewa/agassessment/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Executive%20Summary%20of%20the%20Synthesis%20Report%20%28English%29.pdf

cent between 1953 and 1997.[56] These ROI from public investments in agriculture have not declined and are higher than investments in social capital or other public sectors.[57]

References: Rio+20 Outcome Document (para 269-270).

RIGHT TO FOOD is a human right protecting the right for people to feed themselves in dignity, implying that sufficient food is available, that people have the means to access it, and that it adequately meets the individual's dietary needs. The right to food protects the right of all human beings to be free from hunger, food insecurity and malnutrition. The right to adequate food is enshrined in the 1948 Universal Declaration of Human Rights and in a number of subsequent international and regional covenants.[58]

References: Resolution "The right to food", adopted by the General Assembly on 18 December 2013 (A/RES/68/177)[59]; Right to Food: Note by the Secretary-General (A/68/288)[60]; Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security[61].

S

SMALLHOLDER / FAMILY FARMER definitions differ across regions and foci. The CFS defines smallholder agriculture as practiced by families (including one or more households) using only or mostly family labor and deriving from that work a large but variable share of their income, in kind or in cash. Agriculture includes crop raising, animal husbandry, forestry and artisanal fisheries. The holdings are run by family groups, a large proportion of which are headed by women, and women play important roles in production, processing and marketing activities. Smallholders are often defined in contrast to larger commercial holdings with hired labor and landless workers. Usually a 2 ha cut-off is used. During the International Year of Family Farmers, a larger cut-off of 10 ha is proposed to account for not just smallholder, but family farmers.

References: *Investing in Smallholder Agriculture for Food Security: A report by the High Level Panel of Experts on Food Security and Nutrition*[62].

SUSTAINABLE AGRICULTURE is the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. It conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable.[63] According to the FAO, five principles for sustainable agriculture in a post-2015 agenda are: improving the efficiency in the use of resources is crucial to sustainable agriculture; sustainability requires direct action to conserve, protect and enhance natural resources; agriculture that fails to protect and improve rural livelihoods and social well-being is unsustainable; sustainable agriculture must enhance the resilience of people, communities and ecosys-

[56] Alston, J., Chan-Kang, C., Marra, M., Pardey, P., & Wyatt, T. (2000). A Meta-Analysis of Rates of Return to Agricultural R&D: Ex Pede Herculem? IFPRI Research Reports (Vol. 113, pp. 148). Washington, D.C.: International Food Policy Research Institute (IFPRI).

[57] Beintema, N., & Elliott, H. (2011). Setting Meaningful Investment Targets in Agricultural Research and Development: Challenges, Opportunities and Fiscal Realities. In P. Conforti (Ed.), Looking Ahead in World Food and Agriculture Perspectives to 2050 (pp. 347-387). Rome: FAO.

[58] For further information: Data source: FAO Legislative Database on the Right to Food. http://www.fao.org/righttofood/knowledge-centre/implementation-tools-and-databases/legislative-database-on-the-right-to-food/en/#.U5lUmCjGBCw

[59] http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/68/177

[60] http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N13/421/78/PDF/N1342178.pdf?OpenElement

[61] ftp://ftp.fao.org/docrep/fao/009/y7937e/y7937e00.pdf

[62] http://www.fao.org/fileadmin/user_upload/hlpe/hlpe_documents/HLPE_Reports/HLPE-Report-6_Investing_in_smallholder_agriculture.pdf

[63] http://www.fao.org/docrep/u8480e/u8480e0l.htm

tems, especially to climate change and market volatility; good governance is essential for the sustainability of both the natural and human systems.[64]

References: Rio+20 Outcome Document (para 23, 110-111, 205).

SUSTAINABLE LAND-USE POLICIES aim to achieve certain objectives relating to the security and distribution of land rights, land use and land management, and access to land, including the forms of tenure under which it is held with due regard to sustainability. They have a production and a conservation component. A sound national land-use policy is effectively part of the enabling environment and should cover all uses of land. To achieve the policy objective of sustainable production and conservation of natural resources, governments should pursue strategies which actively promote forms of land use which are both attractive to people (including smallholder farmers) and sustainable in terms of their impacts on land resources. By developing the national land-use policies through a participatory, integrated and iterative process, there is a much greater likelihood of achieving this.[65]

References: Sustainable Land Use for the 21st Century[66].

T

TOTAL FACTOR PRODUCTIVITY (TFP) is a method used to measure agricultural productivity. This method takes into account all of the land, labor, capital, and material resources employed in farm production and compares them with the total amount of crop and livestock output. If total output is growing faster than total inputs, this is seen as an improvement in total factor productivity ("factor" = input). TFP differs from measures like crop yield per acre or agricultural value-added per worker because it takes into account a broader set of inputs used in production. TFP encompasses the average productivity of all of these inputs employed in the production of all crop and livestock commodities. Growth (or decline) in TFP results predominantly from public investment (or lack of investment) in infrastructures (irrigation, electricity, roads) and in agricultural research and extension, and from efficient use of water and plant nutrients.[67]

TRADE-DISTORTING SUBSIDIES is a controversial and contested term in global trade negotiations. It has centered on whether subsidies outside the "Green Box" resp. trade-distorting agricultural subsidies are needed for agriculture to perform its many functions, in particular also in developing countries.[68]

References: Rio+20 Outcome Document (para 281); Public Stockholding for Food Security Purposes – Ministerial Decision (WT/MIN(13)/38, WT/L/913)[69].

[64] http://www.fao.org/fileadmin/user_upload/post-2015/14_themes_Issue_Papers/EN/12._Sustainable_agriculture_web.pdf

[65] http://www.fao.org/nr/land/land-policy-and-planning/en/

[66] http://sustainabledevelopment.un.org/content/documents/1124landuse.pdf

[67] http://www.ers.usda.gov/data-products/international-agricultural-productivity.aspx#.U3YMM6UplNw
http://www.fao.org/docrep/005/ac484e/ac484e08.htm

[68] http://www.wto.org/english/tratop_e/agric_e/negs_bkgrnd17_agri_e.htm
http://www.unep.org/dewa/agassessment/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Global%20Summary%20for%20Decision%20Makers%20%28English%29.pdf

[69] http://wto.org/english/thewto_e/minist_e/mc9_e/balipackage_e.htm