# FAO / INFOODS Reports

# Nutrition Indicators for Biodiversity - Food Composition & Food Consumption

# Global Progress Report 2013

INFOODS

# FAO/INFOODS
# Report on the
# Nutrition Indicators for Biodiversity

# Food Composition
# &
# Food Consumption

# Global Progress Report 2013

**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS**
Rome, 2013

## Acknowledgment

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## Introduction

FAO in collaboration with Bioversity International and the other parties is leading the Cross-Cutting Initiative on Biodiversity for Food and Nutrition, which has been established to measure, investigate and promote biodiversity and nutrition (FAO, 2008, 2010).

Nutritional indicators for biodiversity are needed to address the diversity of plants, animals and other organisms used for food, covering the genetic resources within species, between species and provided by ecosystems. Two indicators have been developed at these levels, addressing composition and consumption of underutilized, wild foods and foods below species level, and represent a simply count of foods that are considered 'biodiverse'.

The Nutrition Indicator for Biodiversity - 1. Food Composition was launched in 2008 (FAO, 2008) and reporting is done on a yearly basis. In the following, it will be referred to as Indicator 1. The Nutrition Indicator for Biodiversity - 2. Food Consumption was developed in 2009 (FAO, 2010) and reporting is done every second year. In the following, it will be referred to as Indicator 2. Detailed information on both Indicators and previous progress reports are available on the FAO/INFOODS website (INFOODS, 2013; FAO/INFOODS, 2013a; Stadlmayr & Charrondiere, 2012; Stadlmayr, Nilsson, Medhammar, Burlingame, & Charrondiere, 2011) and on the website of the Biodiversity Indicators Partnership (BIP, 2013).

This report on the Nutrition Indicators for Biodiversity aims to present a global report covering the period before 2014, and in more detail the annual progress in 2013 for Indicator 1 and the progress between 2012 and 2013 for Indicator 2, respectively.

## 1. Foods contributing to the Indicators – 'biodiverse' foods

Foods that contribute to both Indicators are identified 1) below species level according to their biological taxonomy, i.e. foods at subspecies/variety/cultivar/breed level; 2) as wild foods, i.e. gathered, collected, caught in the wild; and 3) as underutilized foods.

Regarding wild and underutilized foods, information is considered satisfactory when described at the genus/species level or with a local name. For the term 'underutilized foods', a reference list of underutilized species contributing to the Indicators was developed and is available at the INFOODS webpage (INFOODS, 2013).

A more refined set of inclusion criteria valid for both Indicators can be found in the Expert Consultation on Nutrition Indicators for Biodiversity – 2. Food Consumption (FAO, 2010). For easy reference, they are included in Annex 1.

In the following, the term 'biodiverse foods' is used for foods that meet the criteria for contributing to the Indicators.

## 2. Purpose of the Indicators

The purpose of the Indicators is to show the interest and awareness of importance of biodiversity and the degree of its explored knowledge of food composition and food consumption. Indicator 1 provides a rough picture of the global availability of compositional data of biodiverse foods, while

Indicator 2 shows to which extend biodiverse foods are featured in food consumption tools and reported by the study population. However, both Indicators cannot reflect the actual availability of data generated in different countries, but rather the efforts by FAO and collaborators in collecting these data and information, and the willingness of data holders to share information on their data and/or publish them in international journal.

## 3. The Indicator on Food Composition – Indicator 1

### a. Definition

Indicator 1 is a count of the number of biodiverse foods with at least one value for a nutrient or bioactive component (FAO, 2008).

More details on the criteria of Indicator 1 can be found in the Expert Consultation on Nutrition Indicators for Biodiversity - 2. Food Composition (FAO, 2008).

### b. Methods

Data for the update of 2013 were obtained by contacting members from the INFOODS network (International Network of Food Data Systems) and by FAO carrying out a literature research.

A reporting template (see Annex 2) was sent out, which collects summarized information on available compositional data of biodiverse foods (e.g. type of publication, number of components analyzed per biodiverse food) and which requires a complete list of those foods that are considered to contribute to Indicator 1. In this way, data were received from Cameroon, India, Peru, South Africa, Thailand and the United States of America. Reported foods were checked for inclusion criteria resulting in the exclusion of some foods (e.g. processed foods). In some cases, reported data could not be used since no food list was received.

In addition to reported foods by countries, a literature research was carried out which was not targeted to a specific food or a food group of interest as in previous years; the search was focusing on foods identified at cultivar or variety level with compositional data published in selected scientific journals (Food Chemistry, Journal of Food Composition and Analysis, Journal of Agricultural and Food Chemistry) and books in 2013, resulting in about 100 relevant articles, out of which 55 were used for the Indicator of 2013.

It has been noticed that the definition and inclusion criteria for the Indicator were not always unambiguous, which raised confusion and overestimation of data availability. Therefore, some clarifications have been made for the reporting in 2013 and are listed in Annex 3.

## c. Global reporting of the Indicator on Food Composition between 2008 and 2013

The overall number of foods counted for the Indicator on Food Composition has reached 15 679, out of which 1 309 foods were added in 2013.

### i. Distribution of biodiverse foods reported for Indicator 1 between 2008 and 2013 by continent

Figure 1 shows the geographic distribution of foods for Indicator 1 until 2013. Most of the 15 679 foods were from Asia (5 102) and America (3 775), followed by Africa (2 645), Europe (2 627) and Oceania (1 063). The category 'other' refers to global databases, whereas 'unknown' refers to the foods of which the origins are not indicated.
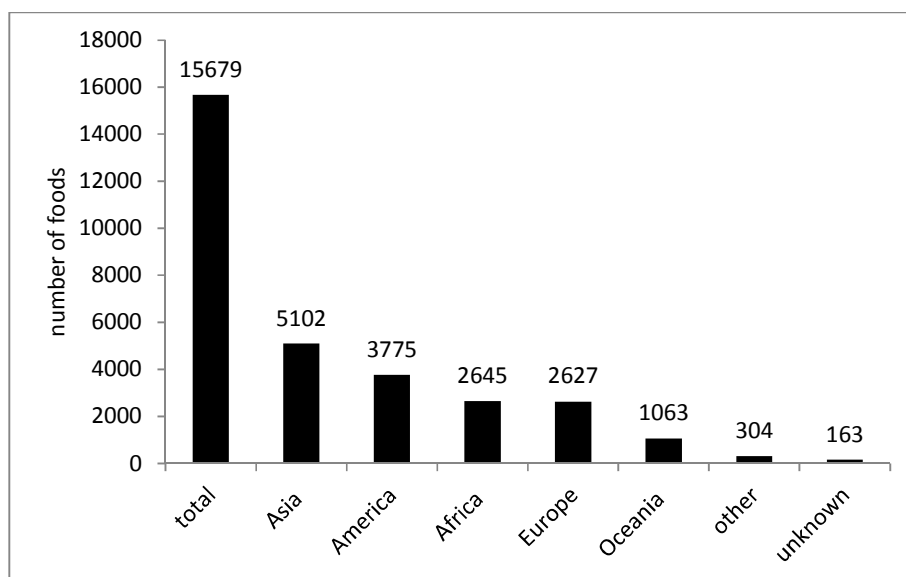


Figure 1: Number of biodiverse foods reported for Indicator 1 categorized by continent (2008-2013)

## ii. Yearly contribution of biodiverse foods to Indicator 1 since 2008 by continent

The yearly increase of Indicator 1 from 2008 to 2013 is shown in Figure 2. In 2008, the baseline report counted 5 519 foods. In the following years, between 835 and 5 186 foods were added annually: 5 186 foods in 2009, 835 foods in 2010, 1 555 in 2011, 1 275 foods in 2012, and 1 309 foods in 2013. The figure indicates that the total amount of foods counted for Indicator 1 is steadily yet unequally increasing, which is due to the amount of time devoted to collect data for the Indicator and the willingness of data owners to share information on their data. Also different data searches for specific targets were conducted in different years. The most extensive data search was conducted between 2008 and 2009, which reflected the high amount of data found in those years. For example, in 2011 specific search for starchy roots and tubers in Africa was conducted, which explained the comparatively high amount of data found in Africa that year.
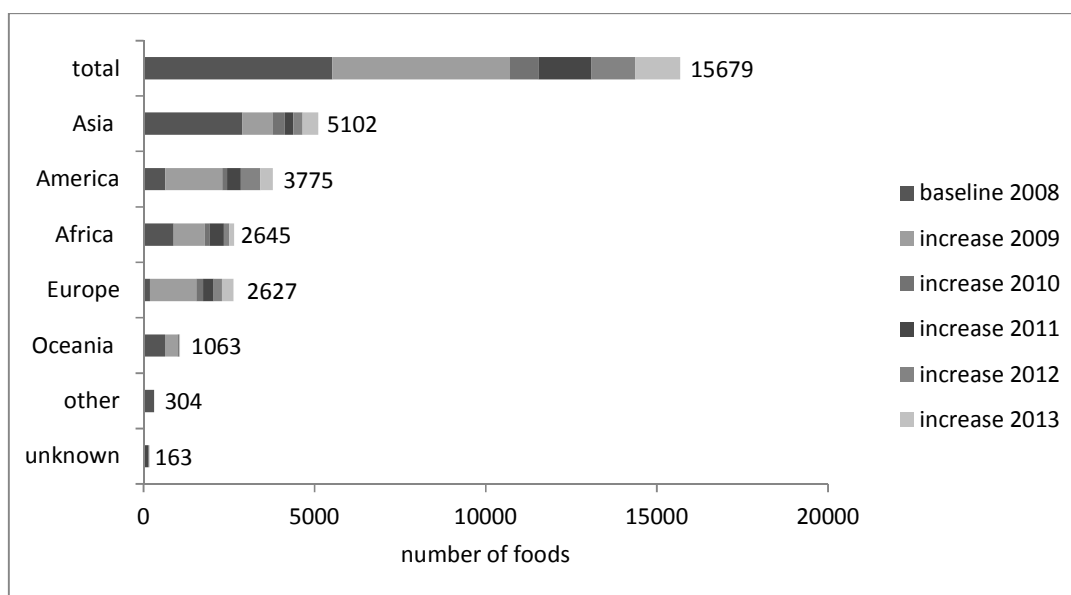


Figure 2: Yearly increase of the number of biodiverse foods counted for Indicator 1 categorized by continent (2008-2013)

## d. Global reporting of the Indicator on Food Composition in 2013

### i. Distribution of newly reported biodiverse foods for Indicator 1 in 2013 by continent

In 2013, a total of 1 309 foods were counted for the Indicator1, as shown in Figure 3. Most of the data were found in Asia (450), followed by Americas (361), Europe (337), Africa (144) and Oceania (17). The majority of the 450 foods counted for Asia were reported by India (61.8%), amongst others due to a comprehensive investigation on the composition of rice varieties, the most foods contributing to Americas came from Peru (45.2%), representing native chili pepper accessions. Hungary (38.3%) and Italy (31.2%) were the two main countries for Europe, while Cameroon (79.9%) reported the most foods for Africa. Regarding Oceania, only three countries were covered this year (Marshall Islands, New Zealand and Australia); most of the 17 foods reported derived from the Marshall Islands (47.1%), representing different breadfruit cultivars.
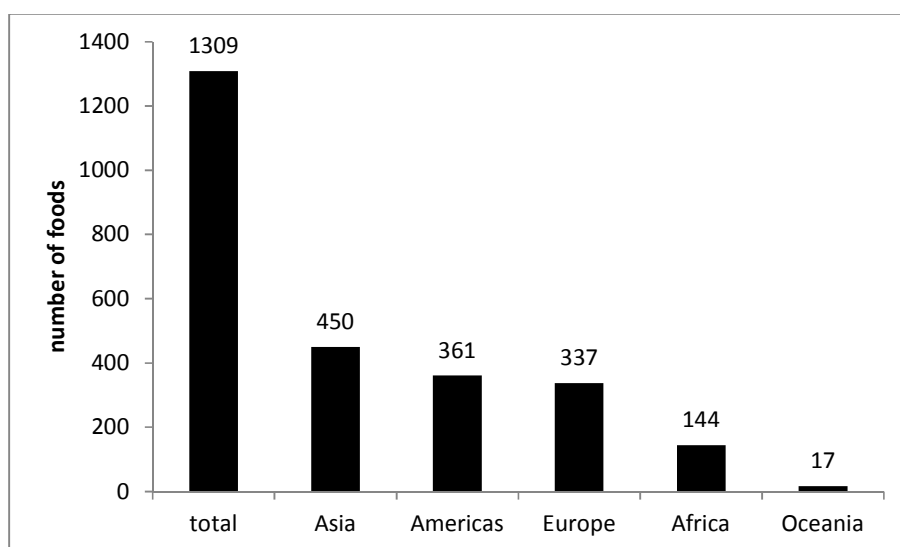


Figure 3: Distribution of the number of biodiverse foods for Indicator 1 reported in 2013 categorized by continent

## ii. Distribution of newly reported biodiverse foods for Indicator 1 in 2013 by number of components provided

The majority of foods found for Indicator 1 in 2013 were reported with 10-30 components (597) and more than 30 components (480), while much less foods with a maximum of 9 components were counted (Figure 4). This pattern indicates that more components per food were analyzed, which is different to previous years where few components per food were the norm. The main component groups for which data were found in 2013 are bioactive constituents, macronutrients and vitamins. However, as observed already in previous years, most of the data belonged to one or two component groups rather than covering a wide range of different nutrients.
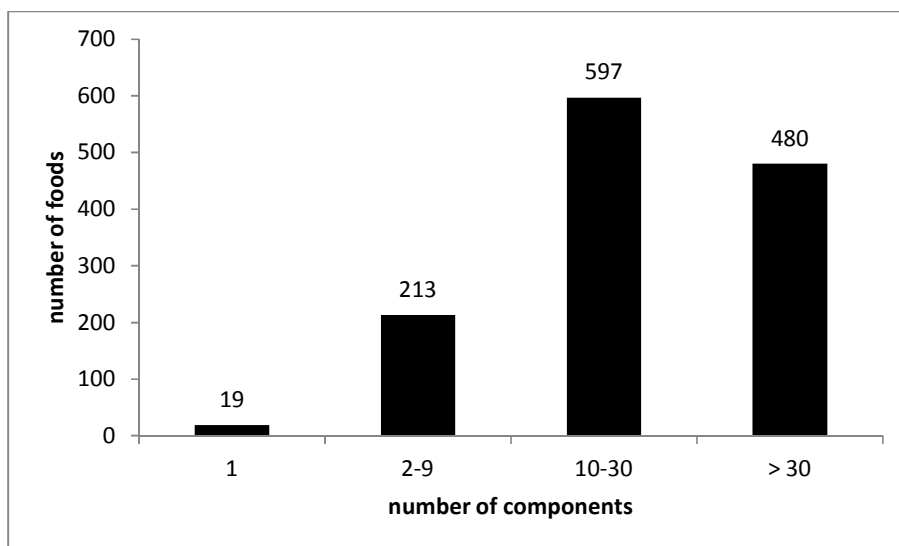


Figure 4: Distribution of newly reported foods for Indicator 1 in 2013 categorized by number of components provided

### iii. Distribution of newly reported biodiverse foods for Indicator 1 in 2013 by biodiverse criteria (below species level, underutilized and wild)

As shown in Figure 5, most of the foods were identified at variety/cultivar/breed level or as accessions/genotypes; only few foods were classified as wild or as underutilized foods. That is due to the literature search, which was targeted to foods identified at cultivar or variety level, as well as most foods were reported below species level.
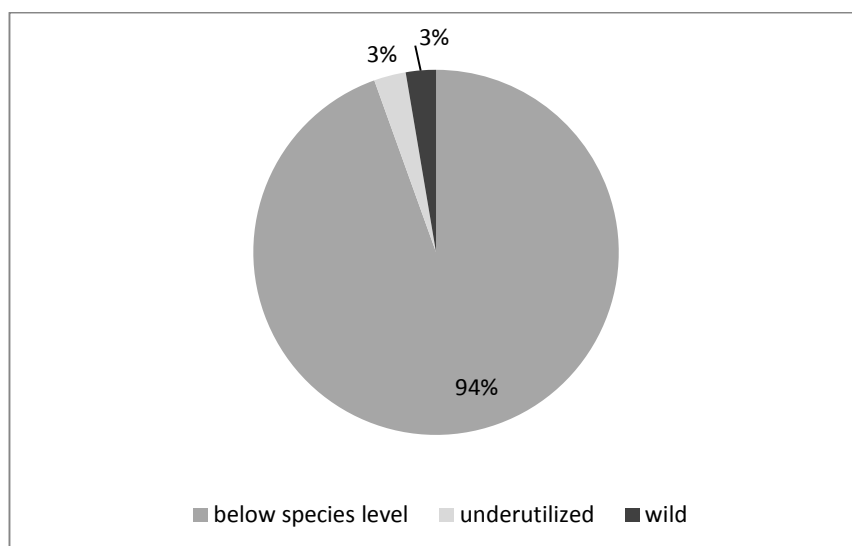


Figure 5: Distribution of newly reported foods for Indicator 1 in 2013 by biodiverse criteria (below species level, underutilized and wild)

## iv. Distribution of newly reported biodiverse foods for Indicator 1 in 2013 by food groups

The classification of newly reported foods by food group is based on the FAO/INFOODS Food Composition Database for Biodiversity – BioFoodComp (FAO/INFOODS, 2013b) which uses 12 main food groups (Table 1). The majority of data in 2013 was found for fruits (32.2%), cereals (30.9%), and vegetables (19.2%), while the least amount was found for herbs & spices (0.7%) and meat & poultry (0.6%). This year, no targeted search on a specific food or food group of interest was carried out. The fact that the literature search emphasized on foods identified at the variety/cultivar/breed level could explain why no data was found for eggs, fish & shellfish, milk, and miscellaneous foods – these foods would rather cover wild and underutilized foods than foods identified below species level.

Table 1: Distribution of newly reported biodiverse foods for Indicator 1 in 2013 categorized by food groups

| Food group | Number of foods | Percentage |
|---|---|---|
| Cereals | 429 | 32.8 |
| Starchy roots & tubers | 67 | 5.1 |
| Legumes | 82 | 6.3 |
| Nuts & seeds | 55 | 4.2 |
| Vegetables | 219 | 16.7 |
| Fruits | 457 | 34.9 |
| Meat & poultry | | |
| Eggs | | |
| Fish & shellfish | | |
| Milk | | |
| Herbs & spices | | |
| Miscellaneous | | |
| total | 1309 | 100 |

## e. Compilation into the FAO/INFOODS Food Composition Database for Biodiversity - BioFoodComp

The compositional data obtained in 2013 for the Nutrition Indicator for Biodiversity – 1. Food Composition were not compiled in the FAO/INFOODS Food Composition Database for Biodiversity, version 2.1 - BioFoodComp2.1 (FAO/INFOODS, 2013), which can be accessed through FAO/INFOODS webpage (INFOODS, 2013). The current version (BioFoodComp2.1) contains 6 497 food entries, covering various food groups. Over the years, only about half of the foods contributing to Indicator 1 were compiled into BioFoodComp, due to lack of time or unavailable data at FAO (only available in the country, where the data were collected). However, all foods in until version 2.0 were counted for Indicator 1. The BioFoodComp will be updated yearly and it is expected that many of the foods counting for the Indicator will gradually be entered into the database, depending on the availability of funds.

## 4. The Indicator on Food Consumption – Indicator 2

### a. Definition

Indicator 2 is a count of the number of biodiverse foods reported in food consumption or similar surveys (FAO, 2010).

A secondary survey indicator was developed and is a count of the number of food consumption surveys and similar surveys taking biodiversity into consideration on their design and/or reporting, with at least one reported food meeting the criteria for Indicator 2. It should be reported in relation to the total number of surveys examined.

More details on the criteria of Indicator 2 can be found in the Expert Consultation on Nutrition Indicators for Biodiversity - 2. Food Consumption (FAO, 2010).

### b. Methods

Indicator 2 is reported every second year, it's last update was published in 2012 (Stadlmayr & Charrondiere, 2012). In general, data to be reported for Indicator 2 are either collected by FAO or are sent by members of the INFOODS network.

For the update of 2013, data were solely obtained by contacting members from the INFOODS listserv and by contacting directly researchers from Bioversity International, while no target literature research was performed.

A template (see Annex 4) was sent out, which collects summarized information on the surveys carried out (e.g. short description of survey, duration, instrument used) and which requires a complete list of those foods that are considered to contribute to Indicator 2. The listed foods were checked for meeting the inclusion criteria as also foods which do not count for Indicator 2 (e.g. process foods) were reported.

For the reporting, data were obtained for Benin, Ecuador, India, and the Democratic Republic of Congo.

Surveys, which investigate the knowledge of biodiverse foods in a population by using e.g. focus group discussions, contribute to the Indicator as long as these foods are not solely known but also consumed as foods (not for medicinal purposes).

## c. Global reporting of the Indicator on Food Consumption between 2009 and 2013

The overall number of biodiverse foods counted for the Indicator on Food Consumption has reached 6 321, out of which 1 375 foods were added for the period from 2012 to 2013.

### i. Distribution of biodiverse foods reported for Indicator 2 between 2009 and 2013 by continent

Figure 6 shows the geographic distribution of the indicator from 2009 until 2013. Most of the 6 321 foods were from Asia (2 207), followed by Oceania (1 720), Africa (1 152), America (761) and Europe (481).
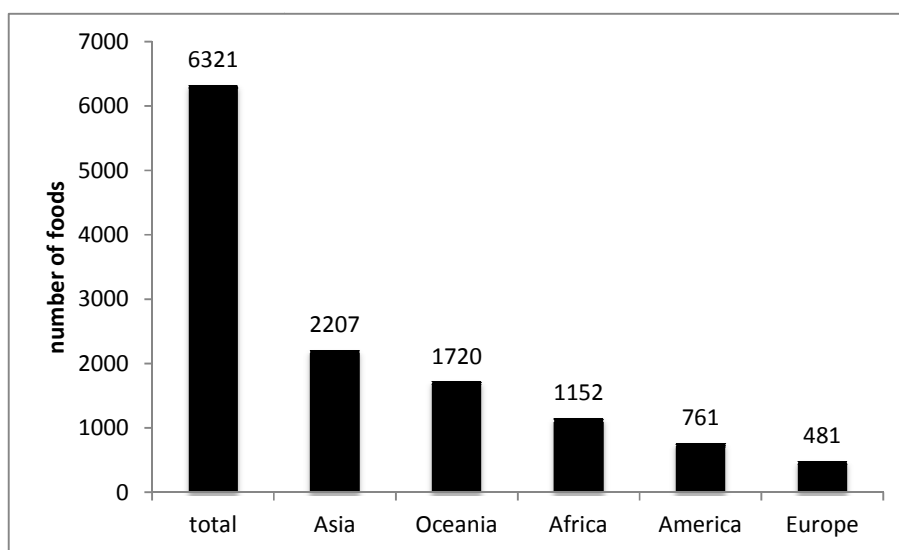
Figure 6: Number of biodiverse foods reported for Indicator 2 categorized by continent (2009-2013)

## ii. Biennial contribution of biodiverse foods to Indicator 2 since 2009 by continent

The increase of Indicator 2 from 2009 to 2013 is shown in Figure 7. In 2009, the baseline report counted 3 119 foods. In the two following reporting periods, 1 827 and 1 375 foods were added. The figure indicates the increasing total amount of foods reported and reflects also the amount of time devoted to collect and report data for the Indicator. While for the update of this year only data from INFOODS members and from Bioversity International contributed to Indicator 2, for the first two reports data were additionally obtained by carrying out a targeted literature research.
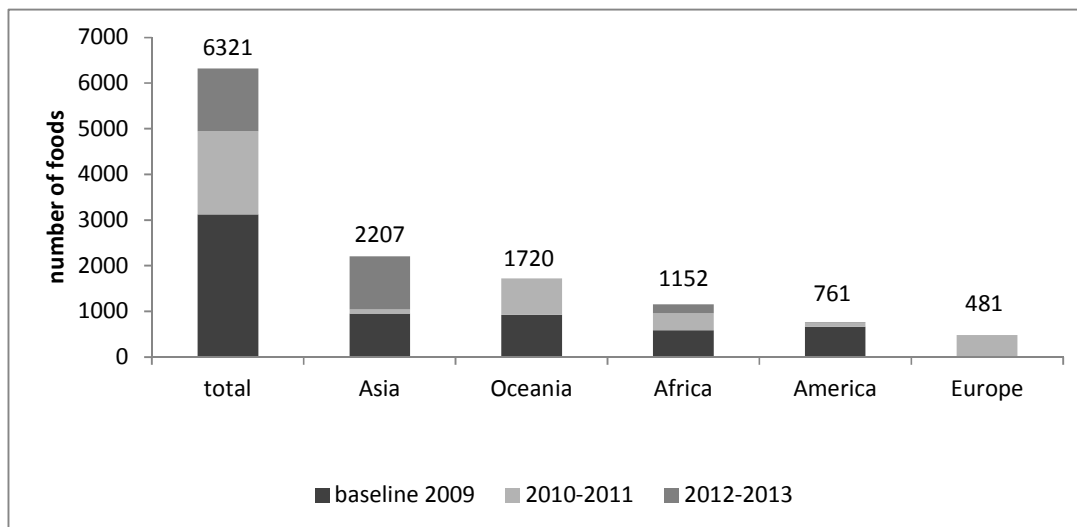


Figure 7: Biennial increase of the number of biodiverse foods counted for Indicator 2 categorized by continent (2009-2013)

i. **Distribution of newly reported biodiverse foods for Indicator 2 between 2012 and 2013 by continent**

For the period between 2012 and 2013, a total of 1 375 foods were counted for Indicator 2, as shown in Figure 8. Most of the biodiverse foods captured in surveys were found in Asia (1 166), and much less foods were reported for Africa (198) and Americas (11). All foods counting for Asia derived from India, where intensive investigations on the consumption patterns of Indian tribes were carried out. Two countries reported for Africa, where 96% of the 198 foods derived from the Democratic Republic of Congo, and 4% from Benin. Regarding Americas, all foods were captured in surveys carried out in Ecuador.
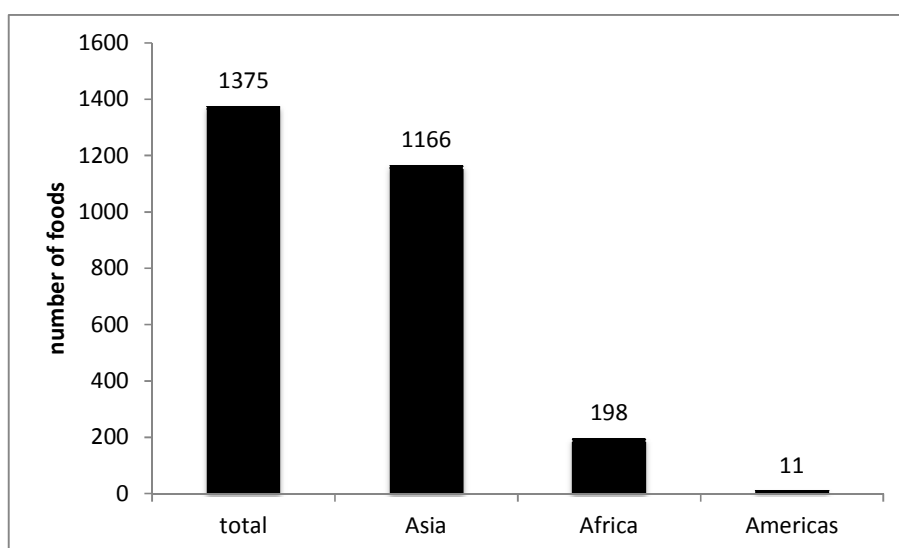


Figure 8: Distribution of the number of biodiverse foods reported for Indicator 2 between 2012 and 2013 categorized by country

Surveys carried out in the Democratic Republic of Congo included dietary assessment studies using 24h recalls and household surveys, market survey and ethno-botanical studies using focus group discussion, all of them emphasizing on the contribution of wild edible plants (WEPs) to the women's diet in urban and rural areas.

A similar study regarding WEPs was followed in Benin. In total, the study population knew 62 different plants, out of which 8 foods were actually recorded in the dietary assessment using 24h recalls. Only the 8 actual consumed foods counted for Indicator 2.

The study in Ecuador focused on the food intake of traditional foods. 108 edible plants species were recorded in the study area, out of which 11 wild species were captured in the dietary assessment.

In India, intensive investigations were carried out to study the food intake of different tribes by putting emphasis on less known wild edible plants for food and medicinal use.
The studies carried out in Africa and Ecuador reported that the study instrument was adapted to capture biodiversity.

## ii. Distribution of newly reported biodiverse foods for Indicator 2 between 2012 and 2013 by biodiverse criteria (below species level, underutilized, wild)

The number of foods by different criteria is shown in Figure 9. Almost all foods were classified as wild foods (99.6%) and only few foods were considered as underutilized (0.4%). This is due to the fact that that all of the surveys which were considered for Indicator 2 were focusing on the consumption of traditional, wild edible foods, i.e. foods collected, gathered, caught in the wild. No foods contributing to Indicator 2 were identified below species level. However, also wild foods may in theory be classified as underutilized or even as foods identified below species level, but for the counting of biodiverse foods, the original indication reported in the survey was maintained.
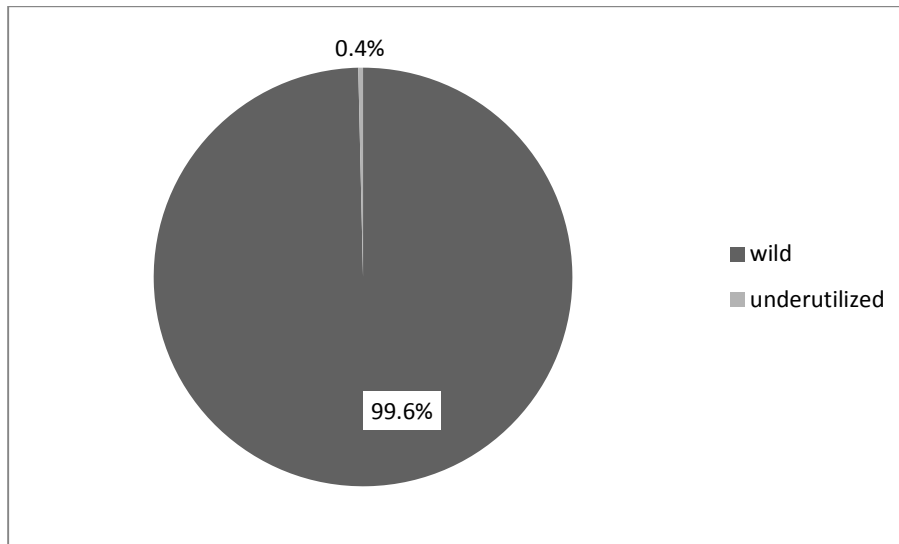


Figure 9: Distribution of newly reported biodiverse foods for Indicator 2 between 2012 and 2013 by biodiverse criteria (below species level, underutilized and wild)

### iii. Distribution of newly reported biodiverse foods for Indicator 2 between 2012 and 2013 by food group

The classification of newly reported foods by food groups is based on the FAO/INFOODS Food Composition Database for Biodiversity – BioFoodComp (FAO/INFOODS, 2013b). Due to the classification of the original data received, a slight adaption was done, namely merging the two food groups cereals and legumes (Table 2). The majority of biodiverse foods captured in the surveys were wild vegetables (39.3%) and fruits (34.2%). The remaining foods contributed to the food groups miscellaneous, starchy roots & tubers, cereals & legumes, meat & poultry, nuts & seeds, and herbs & spices. No foods were counted for eggs, fish & shellfish and milk. Amongst others, this result can be explained by the fact that the surveys from the Democratic Republic of Congo, Benin, and Ecuador where emphasizing on the consumption and knowledge of wild edible plants – data from these countries contribute to 15.1% to total amount of foods reported.

Table 2: Distribution of newly reported biodiverse foods between 2012 and 2013 categorized by food groups

| Food group | Number of foods | Percentage |
|---|---|---|
| Cereals & pulses | 44 | 3.2 |
| Starchy roots & tubers | 99 | 7.2 |
| Nuts & seeds | 23 | 1.7 |
| Vegetables | 541 | 39.3 |
| Fruits | 470 | 34.2 |
| Meat & poultry | 40 | 2.9 |
| Eggs | | |
| Fish & shellfish | | |
| Milk | | |
| Herbs & spices | 4 | 0.3 |
| Miscellaneous | 154 | 11.2 |
| total | 1375 | 100 |

## e. The Secondary Survey Indicator

No data on the secondary indicator were evaluated since 2009.

## 5. Conclusion

The collection of Nutrition Indicators for Biodiversity – Food Composition & Food Consumption suggests that there is an increasing interest and appreciation of food biodiversity for human nutrition.

The total amount of data on the Indicator on Food Composition is yearly and steadily increasing, especially those at variety/breed/cultivar level and on underutilized foods. However, a broader range of foods with wide coverage of components still needs to be analysed and reported in order to mainstream biodiversity into nutrition activities. It is hoped that compositional data on wild foods and foods in specific regions, such as Oceania, will be growing and will become more accessible.

If more time were allocated to the sharing, collection, reporting and compilation of the composition data for food biodiversity, the Indicator and the BioFoodComp would grow faster and more users could benefit from the reported and compiled data.

Regarding Indicator 2 on Food Consumption, data exist but it is hoped that in future more data are being reported and that more surveys and instruments capture the food consumption of varieties, cultivars and breeds, as well as of wild and underutilized foods. As done for Indicator 1, a literature search should be conducted for the Indicator on Food Consumption for future reporting.

The publication of the Guidelines on Assessing Food Biodiversity in Dietary Surveys of FAO and Bioversity International in 2014 will hopefully contribute to raise the awareness of food biodiversity in dietary assessment, and allow more biodiverse foods to be reported, also in national surveys.

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biodiversity/en/

## Annex 1: Inclusion/Exclusion criteria for foods contributing to the Indicators

Table adapted according to 'Criteria for the inclusion or exclusion of food for Indicator 1 and 2' and 'Foods with cultivars contributing or not to Indicator 1 and 2' (FAO, 2010).

| Foods included | Examples |
|---|---|
| Foods at cultivar/variety/breed level for common and imported foods (e.g. rice, banana, potato), preferable with scientific name | • *Malus sp.*, 'Granny Smith'<br>• European flounder (*Platichthys flesus* var. *marmorata*) |
| Wild (i.e. not cultivated/reared/farmed) described at genus/species level and/or with local name | • Dragon lizard, wild (*Amphiboluris sp.*) |
| Underutilized foods described at genus/species level and/or with local name<br><br>Foods must be recorded on the 'List of underutilized species counting for biodiversity' (INFOODS, 2012a) | • Breadfruit (*Parkia biglobosa*)<br>• Bug, called 'Um-buga' in Sudan |
| Colour and/or shape and/or taste describe the variety/cultivar/breed | • Pear, brown-skinned (*Pyrus sp.*)<br>• Snake gourd (*Trichosanthes cucumerina*)<br>• Star fruit, acid (*Averrhoa carambola*) |
| Common foods described taxonomically as varieties (but are considered as species because they are common foods such as cauliflower) if described with additional cultivar name | • Nectarine 'Goldmine' (*Prunus persica* var. *nectarine*)<br>• Cabbage 'January King' (*Brassica oleracea* var. *capitata*) |
| Ingredients used in recipes or processed foods (e.g. spices, condiments, micro-organisms and probiotics) non-packaged form of botanical sup-plements/extracts (including beverages) | |
| A local name in addition to an English/ Spanish/French or taxonomic name if it is indicative for a variety/cultivar/breed (e.g. in brackets after the English/Spanish/French name) | |
| Genetically modified foods | |

| Foods excluded | Examples |
|---|---|
| Common or imported foods (e.g. rice, banana, potato) described only at species level, even if other specification are given such as<br><br>• region<br>• country<br>• season<br>• color as part of the food name or as indication of processing<br>• shape<br>• species name is followed by author which should not be confused with the cultivar/variety/breed name<br>• local name | • Color: green beans<br>• Processing: white or brown rice<br>• Shape: medium-size carrot<br>• Author name: L. or Linn. (for Linnaeus), Mill., Lam. (for Lamarck) |
| Common or imported name described only with local name | |
| Foods with unspecific name | • 'wild green leaves'<br>• 'reef fish'<br>• 'bush meat' |
| Local name in addition to English/ Spanish/French name seeming to be the translation of the food (i.e. not indicative of variety/cultivar/breed) | |
| Taxonomic varieties considered by error as a species when described without an additional cultivar name | • Clementines - *Citrus reticulata* var. *clementine*<br>• Nectarines - *Prunus persica* var. *nectarine*<br>• Mange-tout peas or snowpeas – *Pisum sativum* var. *macrocarpum*<br>• Asparagus - *Aspsaragus officinalis* var. *altilis*<br>• Peppers, capsicum, chilli, green – *Capsicum annum* var. *grossum*<br>• Peppers, capsicum, green/red – *Capsicum annum* var. *grossum*<br>• Broccoli - *Brassica oleracea* var. *botrytis*<br>• Cauliflower - Brassica oleracea var. *botrytis*<br>• Brussels sprouts - *Brassica oleracea* var. *gemmifera*<br>• Cabbage - *Brassica oleracea* var. *capita*<br>• Curly kale - *Brassica oleracea* var. *acepahla*<br>• Spring green - *Brassica oleracea* var. *acepahla*<br>• Swede - *Brassica napus* var. *napobrassica*<br>• Turnip - *Brassica rapa* var. *rapifera* |
| Recipes | |
| Fortified foods | |
| Supplements, and plant or animal extracts in packaged form | |

# Annex 2: Template for reporting foods contributing to Indicator 1

**Reporting template for foods contributing to the Indicator on Food Composition**

**Country:**
**Sender (name and contact details):**
**Date:**

| Publication | Material examined | Ref # | Enter the number of biodiverse foods in the regarding columns below | | | |
|---|---|---|---|---|---|---|
| | | | 1 component analyzed | 2–9 comp. analyzed | 10–30 comp. analyzed | > 30 comp. analyzed |
| **1. Food composition databases (FCDB)** | | | | | | |
| Reference database of national FCDB | | | | | | |
| User database of national FCDB | | | | | | |
| Other national FCDB | | | | | | |
| **2. Literature** | | | | | | |
| Peer-reviewed journals | Indicate journals and year | | | | | |
| National laboratory reports | Indicate laboratory and year | | | | | |
| Reports from national research institutes | Indicate research institute and year | | | | | |
| National conference presentations (incl. posters) | Indicate conference and year | | | | | |
| | Indicate conference and year | | | | | |
| Theses | Indicate university and year | | | | | |
| **3. Others** | | | | | | |
| International peer-reviewed journals | Indicate publication and year | | | | | |
| Book | Indicate publication and year | | | | | |

**List of References**
List them here for those indicated above

| Reference # | Source |
|---|---|
| | |

**List of biodiverse foods covered per reference**
List them here for those indicated above, incl. the components examined

| Ref # | English name | Scientific name | Criteria S/W/U* | Part analyzed/edible/used | Components analyzed |
|---|---|---|---|---|---|
| | | | | | |

* biodiverse criteria: S= cultivar/breed/variety; W= wild; U= underutilized

# Annex 3: Refined criteria for inclusion/exclusion of foods contributing to the Indicators

Refined inclusion/exclusion criteria for biodiverse foods were set for Indicator 1 and 2.

1) If data are reported for the same country for the same variety/cultivar/breed or wild/underutilized food for the same part, maturity stage and gender, it will be counted only once, regardless of any additional dataset on differences due to region, season, agricultural features, storing, processing etc.

2) Parts of foods for which no evidence could be found that humans consume it, it will not be counted for the Indicators, e.g. potato flower or kiwi skin.

3) Data are counted separately if the following pieces of information are specified: different stages of maturity, different genders or cross-breeding varieties.

4) In many cases, the variety of fish/seafood is not provided. In such cases where variety name is not provided, only those were included indicating to be caught in the wild.

5) Some animal foods were added to underutilized foods list, such as eggs (duck, goose, ostrich, quail and turkey), meat (donkey and horse), and underutilized fruits and vegetables. The list of underutilized species was updated and published at the INFOODS webpage in December 2013 (INFOODS, 2013).

6) If no scientific name for the food is available but it is clear that different varieties/ cultivars/breeds of the food were captured, the food contributes to the Indicators, e.g. Tomato, cultivar 'Bella', 'Rosa', 'Giant';

7) Flour made of starchy roots and tubers is not considered as a processed food but is considered as a dried form of the food and therefore counts for the Indicators; the description of the sample preparation needs to be checked carefully.

8) Juice made of berries, or oil made from olives or rap seeds are considered as processed foods and do therefore not contribute to the Indicators.

**Specific for Indicator 1:**

9) To avoid over-counting but to enable recording shifts towards more components analysed from previously reported foods for Indicator 1, it was decided, if possible, to sum up the number of analysed components assuming that the components are available per food. As this was often not the case (except for those data collected and reported in the FAO/INFOODS Food composition Database for Biodiversity - BioFoodComp) (FAO/INFOODS, 2013b), the highest number of components per food should be taken for the reporting.

10) If foods are analysed in a single composite sample with different varieties, it should not be counted, even though the name of each variety is provided because the composition per variety cannot be identified.

11) Different parts of a food are counted separately, e.g. root, leaves, fruit, stem; if the food part per se was subdivided and analyzed separately, the food is only counted once, e.g. apple flesh + skin, or rice bran + endosperm.

# Annex 4: Template for reporting foods contributing to Indicator 2

**Reporting template for foods contributing to the Indicator on Food Consumption**

**Country:**
**Sender (name and contact details):**
**Date:**

The template can be used for any level of aggregation: ecosystem, sub-national, national, regional and global.

| Type and scope of survey | Bibliographic reference | Time/ date of survey | Geographic/ethnic coverage | Number of subjects and short description * if possible | Instrument used | Study and/or instrument adapted to capture biodiversity yes/no/ unknown | Total number of foods in survey | List of foods contributing to Indicator 2 (according to criteria)** | Number of foods contributing to Indicator 2 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | | | | | | | | | |

\* Age, sex, education or number of households, culture, socio-economic status (high, medium, low).
\*\* The food list should be given in an annex.

An example of usage of the template is given in *annex 6* http://www.fao.org/docrep/014/i1951e/i1951e00.htm

**List of References**
List them here for those indicated above

| Reference # | Source |
|---|---|
| | |

**List of biodiverse foods covered per reference**
List them here for those indicated above, including the part consumed

| Ref # | English name | Scientific name | Criteria S/W/U* | Part consumed |
|---|---|---|---|---|
| | | | | |

\* biodiverse criteria: S= cultivar/breed/variety; W= wild; U= underutilized