Global Biodiversity Information Facility

Participants Report 2009

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Executive Summary

The GBIF Work Programme (WP) 2009-2010 recognises that the level of success the organisation will attain in the implementation of its work plans is dependent on the level of involvement of all GBIF's "highly diverse, yet like-minded Participants". As a consequence, the Governing Board approved the development of an online Participant Reporting System (PRS) and agreed to report once a year on the status of their GBIF-related activities and their progress towards the goals identified in the WP. The PRS was designed in 2009, aiming not only to monitor the implementation of the WP globally, but also to provide the necessary channel for the diverse needs of GBIF's Participants to be reported both to the Secretariat and the other Participants so that GBIF's activities and services can be tailored in response. The PRS included separate sections of questions for Country Participants (and economies) and Organisation Participants, in recognition of their different roles in GBIF.

In this first year of the PRS, 39 Country Participants (and economies) (76%) and 24 Associate Organisation Participants (59%) submitted reports.

Participant Reporting rate

The 2009 reports confirm the diversity of GBIF's Participants in terms of their capacity and needs, and also the way they engage with GBIF, participate in the WP activities, and the roles that Country Participants play at the national level. Country Participant reports showed that the majority of GBIF's National Nodes have been established in response to national needs, often beyond the scope of the GBIF Work Programme, and they are therefore engaged in providing a wide range of services on the national level. Such services included the implementation of data portals giving access to biodiversity data (by 56% of countries), responding to information requests from ministries or other institutions (34% received information requests very often, 26% occasionally received such requests), and maintaining and providing technical support to networks of biodiversity data publishers (33 National Nodes had a total of 2464 institutions and 9174 persons involved in their networks via their contact lists). In addition, although only 46% of National Nodes were involved in training activities, it is estimated that the 20 countries that organised training events trained up to 1259 people between October 2008 and September 2009.

A very diverse network in terms of capacity and needs

Providing services at the national level

However, the situation for many National Nodes appears unstable: less than half (46%) of the Country Participants were able to report with certainty that their National Node would be maintained in 2010, 32% of National Nodes had no budget for their activities and were relying on in-kind support, and 33% of Country Participants classified the situation of their National Nodes as either not yet having been implemented, in the start-up phase, or on stand-by. Resource barriers (insufficient funds, insufficient staff) were the most commonly identified barriers to the further development of National Nodes. Correlations were found across the reports between the formal establishment (by national mandate for example) of National Nodes and their stability, including budget availability, sustainability, and requests for information from ministries and other institutions. This underlines the importance of a formal level of endorsement of National Nodes to their ability to function as sustainable Biodiversity Information Facilities at the national level and as a part of the GBIF global network.

Tools for publishing data via GBIF were within the three most common informatics priorities identified by National Nodes. A first version of the Integrated Publishing Toolkit (IPT) was released in 2009 and the majority (82%) of Country Participants reported interest in the tool, having installed it for testing purposes, tried to install it, or planned to install it in the near future. However, most (58%) Country Participants that had installed the IPT reported that it was still missing some key features or functionalities, which will help guide the further development of the IPT. The GBIF Data Portal was also identified as only partially meeting the needs of most Country Participants (58%) and Organisation Participants (57%), highlighting the need for its ongoing development.

The GBIF WP calls for a rapid increase in the rate of data discovery and mobilisation by Participants. Only 15 Country Participants (38%) had national-level metadata catalogues available and only 4 (11%) had national policies on biodiversity metadata in place, stressing the need for wider uptake of metadata frameworks to meet the expected outcomes agreed for the WP. 22 Countries provided estimates of the number of primary biodiversity data records available in their country, which collectively totalled approximately 2.4 billion primary biodiversity data records, of which 33% (approximately 800 million) were estimated to be currently in digital

form. Actual growth in the number of records mobilised by the GBIF network followed a linear trend again in 2009, with the publication of an additional 33 million records approximately. The reports provided by Participants on actions to accelerate data mobilisation (taken by only 24% of Country Participants and 38% of Organisation Participants) and on the adoption of national strategies for biodiversity data discovery and mobilisation (implemented by 23% of Country Participants), together with the continued linear trend in the growth of records available through the GBIF network, emphasise the general need for improved strategic planning across the GBIF network towards accelerated data mobilisation in 2010 and beyond.

While most Country Participants (66%) reported that the GBIF WP had been useful in setting priorities and initiating activities, only 35% of Organisation Participants found the WP useful in this regard. The most frequent WP areas to which Organisation Participants viewed their contributions were the digitisation and mobilisation of biodiversity data, informatics, and outreach activities. Whilst 39% of Organisation Participants reported having a current Memorandum of Cooperation (MoC) with GBIF to cover specific areas of joint work, another 40% of Organisation Participants indicated that they would find additional agreements (such as MoC's) with the GBIF Secretariat beneficial. These reports call for more formalised collaborative agreements with Organisation Participants, as well as indicating the need to investigate alternative relationships to the current Associate Participant role for collaborations with relevant organisations in future.

The increased focus in the WP on the decentralisation of GBIF and the regionalisation of the Nodes activities, places increased responsibility on the Participants and National Nodes for the success of GBIF as a whole. A summary table providing an overview of the situation of the National Nodes grouped by region is provided (Annex 3), giving insight into the regional differences to be taken into account during the implementation of the regionalisation strategy.

In questions reviewing the PRS, most Participants reported that they found the PRS useful (38% found it very useful and relevant, 39% found some sections useful). This report is the first product of this new approach to reporting and is intended to accompany the 2009 Annual Report, providing an overview of the overall status of GBIF's network of Participants. It is expected that the report will be used by both the GBIF Secretariat and

Participants in planning activities from 2010 onwards.

As this is the first version of a Participants Report produced from the PRS, Participants are invited to provide feedback on this 2009 report to the GBIF Secretariat. This feedback will be used for improving the 2010 PRS and Participant Report to make the reporting process as useful as possible for Participants and the Secretariat. In response to reports received on the timelines for Participant Reporting in 2009, the 2010 PRS will be opened for reporting at the 17th Meeting of the GBIF Governing Board with a deadline for reporting by the end of the year.

Reviewing the 2009 Participant Report

Participant Reporting in 2010

Introduction

Participant Reporting process

The biennial GBIF Work Programmes are a joint venture between GBIF Participants and the Secretariat. At the 15th Meeting of the GBIF Governing Board in 2008, it was agreed that both Participants and the Secretariat would provide progress reports once a year to help the organisation better understand the overall GBIF picture and to guide the setting of relevant priorities for the future. To this end, the GBIF Secretariat developed an online Participant Reporting System (PRS) to allow Participant countries, economies and international organisations to report on the overall status of their GBIF activities and their contributions to implementing the 2009-2010 Work Programme towards the agreed key outputs by the end of 2010 (Annex 6).

The PRS was opened on 24 July 2009, and the GBIF Secretariat requested that all Heads of Delegations and Node Managers access the PRS and complete a report before 21 August 2009. Of the total GBIF Participants (51 countries and 41 international organisations as of 21 August), 38 Country Participants (and economies) (75%) and 17 Associate Organisation Participants (41%) submitted reports. A draft of the 2009 Participants Report was presented to the GBIF Nodes Committee and Governing Board at their 16th Meeting (GB16) in October 2009. At the same time, the GBIF Secretariat produced a 2009 report to the Governing Board on Secretariat progress towards accomplishing the Work Programme targets. These reports were jointly provided to both the GBIF Review and the Forward Look Teams commissioned by the Governing Board in 2009, to inform them on the progress made towards the implementation of the Work Programme.

During the GB16 meeting, it was decided that the PRS would be re-opened until the end of the year to enable the remaining Participants to submit their reports. By the end of 2009, 39 Country Participants (76%) and 24 Associate Organisation Participants (59%) submitted reports (Annex 1).

Participant Reporting System structure

As GBIF is a diverse community of countries and international organisations - and in response to the comments received on the draft version - the Participants Report was divided into two main sections:

- **Questions for Country Participants** (and economies), with subsections to be answered by Heads of Delegation and by the National Node Managers

- **Questions for Associate Organisation Participants**, with subsections taking into account: (a) organisations that are publishing data via GBIF; (b) organisations that potentially could share data with GBIF; and (c) organisations that are members of GBIF for other reasons than publishing data.

This design for the PRS was chosen to enable all Participants in GBIF to be able to report on general GBIF issues and their contributions to the 2009-2010 Work Programme. A complete list of questions is provided in Annex 2.

Most Participants reported the new online system to be a useful tool (Figure 5-1) and the additional comments and suggestions provided by Participants will be used by the GBIF Secretariat, where possible, for improvements to the PRS for 2010 reporting.

Participant Report analysis

The key findings of the 2009 Participants Report are presented in 5 sections, following the structure of GBIF's 2009 Annual Report: (1) Engagement, (2) Informatics Infrastructure and Portal, (3) Biodiversity Science: Content and Use, (4) Strategic Partnerships and Uptake, and (5) Evaluation of the Participant Reporting System. These are presented visually as charts, with summaries of the additional comments provided by Participants included in the accompanying text. Where appropriate, data from the GBIF indexing process on the number of primary occurrence records published via GBIF are included in the analyses.

The bias due to the incomplete number of responses to the PRS should be taken into consideration in the interpretation of the results presented in this report, which represents a summary of reports provided by 76% of Country Participants (and economies) and 59% of Associate Organisation Participants.

The responses provided by individual Participants are shown by including Country Participants' (and economies') and Associate Organisation Participants' acronyms in the figures. These acronyms are shown in Tables 1 and 2. For all the analysis performed, economies have been included within the category of Country Participants.

Table 1 List of Country Participant and Economy acronyms used in figures

Participant	Acronym	Participant	Acronym
Argentina	AR	Kenya	KE
Australia	AT	Korea, Republic of	KR
Austria	AU	Luxembourg	LU
Belgium	BE	Madagascar	MG
Burkina Faso	BF	Mexico	MX
Cameroon	CM	Netherlands	NL
Canada	CA	New Zealand	NZ
Chinese Taipei	CT	Nicaragua	NI
Colombia	CO	Norway	NO
Costa Rica	CR	Pakistan	PK
Cuba	CU	Peru	PE
Denmark	DK	Philippines	PH
Estonia	EE	Poland	PL
Finland	FI	Portugal	PT
France	FR	Slovakia	SK
Germany	DE	Slovenia	SL
Ghana	GH	South Africa	ZA
Guinea	GN	Spain	ES
Iceland	IS	Sweden	SE
India	IN	Switzerland	CH
Indonesia	ID	Tanzania	TZ
Ireland	IE	United Kingdom	UK
Japan	JP	United States	US

Table 2 List of Organisation Participant acronyms used in figures

Organisation	Acronym
BioNET's Andean Country Network	ANDINONET
BioNET-INTERNATIONAL	BioNET
Bioversity International	BioI
CABI Bioscience	CABI
Consortium of European Taxonomic Facilities	CETAF
Encyclopaedia of Life	EoL
ETI Bioinformatics	ETI
Endangered Wildlife Trust	EWT
Inter-American Biodiversity Information Network	IABIN
African Insect Science for Food and Health (form. International Centre for Insect Physiology and Ecology)	ICIPE
International Long Term Ecological Research	ILTER
Integrated Taxonomic Information System	ITIS
Nordic Genetic Resource Centre	NORDGEN
Ocean Biogeographic Information System	OBIS
Nicaragua Ministerio del Ambiente y los Recursos Naturales	MARENA
Pacific Biodiversity Information Forum	PBIF
Scientific Committee on Antarctic Research	SCAR
Society for the Management of Biodiversity Data	SMEBD
Society for the Preservation of Natural History Collections	SPNHC
Taxonomic Databases Working Group	TDWG
United Nations Environment Programme - World Conservation Monitoring Centre	UNEP-WCMC
World Data Center for Biodiversity and Ecology	WDCBE
World Federation of Culture Collections	WFCC
Wildscreen	WS

1. Engagement

1.1. National Nodes

The increased focus in the GBIF Work Programme 2009-2010 on the decentralisation of GBIF and the regionalisation of the Nodes activities, places increased responsibility on the National Nodes for the success of GBIF as a whole. This makes it ever more important for GBIF to understand the level of development of its Participant Nodes. An understanding of the challenges faced by GBIF Participant Nodes is also critical to providing more targeted support to this diverse community.

This section reviews reports provided by Country Participants and their National Nodes independently of the reports provided by Organisation Participants, recognising the different roles played by these groups of Participants in GBIF. Country Participants were asked to report on topics relating to the development status of their National Nodes, the barriers perceived to be hindering the development of the National Nodes, and the work carried out by the Nodes at the national level.

1.1.1. Development status of GBIF National Nodes

An overview of the status of GBIF's National Nodes is given in Annex 3. The results are grouped by region to facilitate comparisons. This overview highlights some important differences in the levels of development of National Nodes between the regions, which should be taken into consideration for the implementation of the regionalisation strategy.

To better understand the diversity of GBIF's National Nodes, Country Participants were asked to report on the origin of their National GBIF networks (Figure 1-1). Of the 39 Country Participants that provided reports, the majority (68%) responded that their National GBIF networks are biodiversity information networks that existed before GBIF and were not established in response to the GBIF Memorandum of Understanding (MoU). The second largest group of Participants (23%) reported their national networks as having been established in direct response to the GBIF MoU. Only one Country Participant (3%) reported the origin of the national GBIF network to be a technical team to help biodiversity publishing, and three other countries (8%) reported theirs to only be technical focal points designated by the Country Participant.

Please select which of the following options best describes the origin of your national GBIF network:

It is a biodiversity information network or facility (national, regional or thematic) that existed before GBIF and was NOT established in direct response to the GBIF MoU
> AR, AT, AU, BE, BF, CM, CA, CT, CR, DK, FI, DE, GH, IS, JP, KE, KR, MG, NL, NO, PK, PH, PL, ZA, ES, SE — 26

It is a biodiversity information network or facility (national, regional, or thematic) established in direct response to or in the context of the GBIF MoU
> CO, CU, ID, IE, MX, PE, CH, UK, US — 9

It is only a technical team designated to help biodiversity data holders to publish data via GBIF
> FR — 1

Currently it is only a technical contact point designated by the GBIF Participant
> GN, NZ, SK — 3

Number of GBIF participants

N=39 countries
Source: GBIF Participant Report 2009

Figure 1-1 Origin of GBIF's National Nodes

Country Participants were asked to classify the level of development of their National Node (Figure 1-2). Approximately half (51%) the Participants classified their National Nodes as being in an expansion phase, and an additional 13% of Nodes were classified as operational. 33% of Participants classified the situation of their National Nodes as either not yet having been implemented, in the start-up phase, or on stand-by.

How would you classify the level of development of your National Node?

N=39 countries
Source: GBIF Participant Report 2009
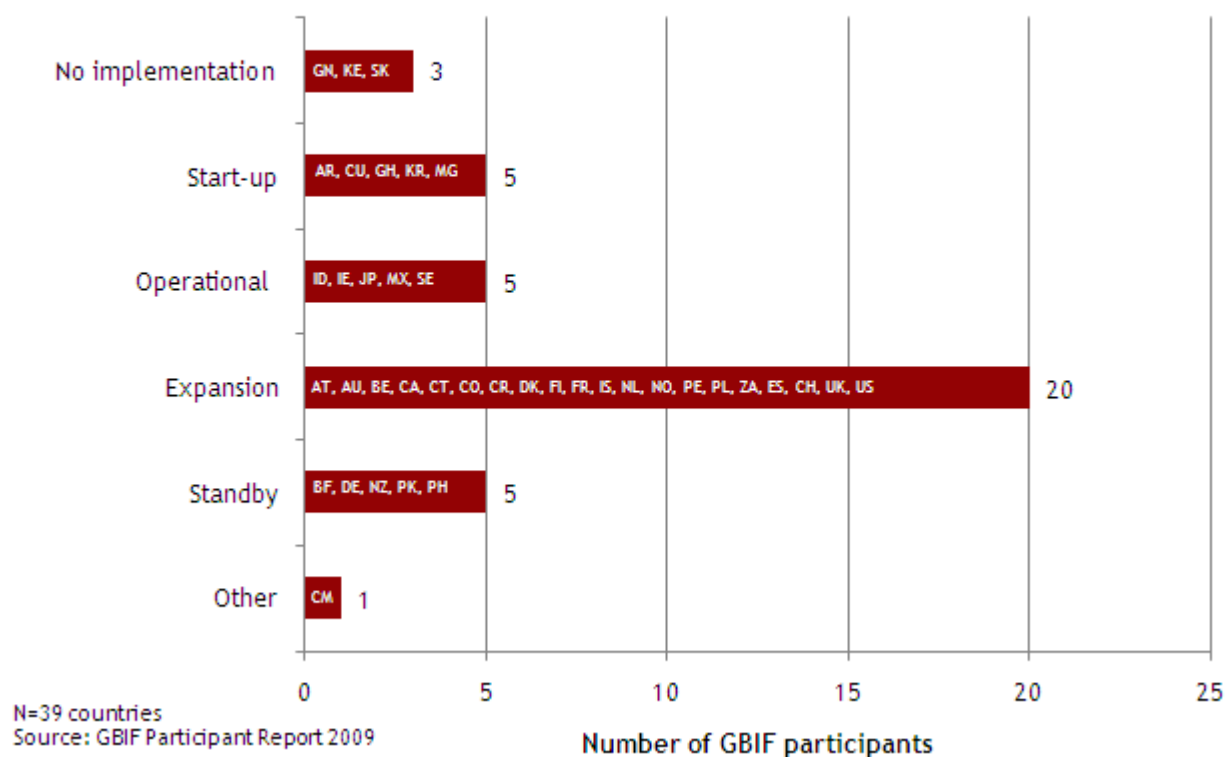
Figure 1-2 Self-classified level of development of GBIF National Nodes

Country Participants reported whether their National Nodes had budgets available for their operations (Figure 1-3). Over half the Participants (58%) reported that their National Nodes have a budget for operations, while 32% of National Nodes were relying on in-kind support for their activities, and the remaining 10% of Participants reported that their National Nodes had not yet been established.

Does your National Node have a budget for its operations?

N=38 countries
Source: GBIF Participant Report 2009
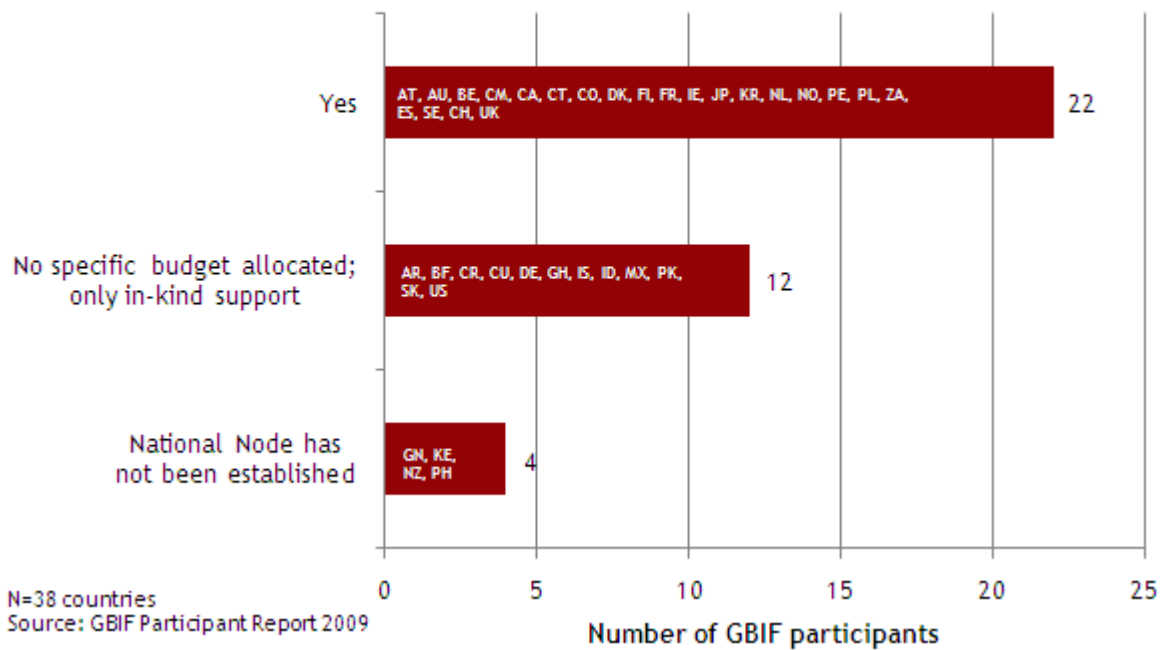
Figure 1-3 Budget status of National Nodes

Figure 1-4 shows how Country Participants viewed the sustainability of their National Nodes past 2009. Less than half (46%) of the Participants reported with certainty that their National Nodes would be maintained for 2010. The majority (51%) of Participants reported that their National Nodes would most likely be maintained over 2010. One Participant (3%) reported the future of the National Node to be uncertain in 2010.

How do you assess the sustainability of your National Node beyond 2009?

The National Node will be maintained for 2010: AT, AU, BE, CT, CO, CR, FI, GH, IS, MG, NL, NO, PE, ZA, CH, UK — 16

The National Node will most likely be maintained over 2010: AR, BF, CA, CU, DK, FR, DE, ID, IE, JP, KR, MX, PK, PL, SK, ES, SE, US — 18

The future of the National Node in 2010 is uncertain: CM — 1

N=35 countries
Source: GBIF Participant Report 2009

Number of GBIF participants
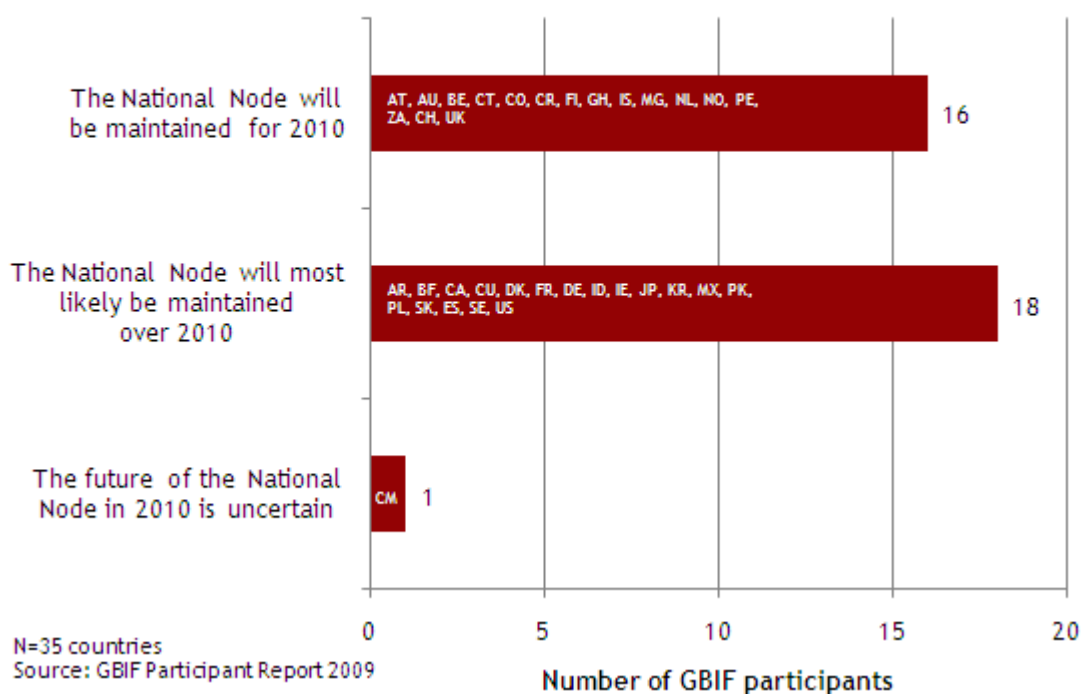
Figure 1-4 Self-assessed sustainability of National Nodes beyond 2009

1.1.2. Barriers to the development of National Nodes

Country Participants were asked to report the three most significant barriers to the further development of their National Nodes (Figure 1-5). For the 39 Countries that responded to this question the most frequently selected barriers were related to a **lack of resources and political support** (insufficient funds (selected as one of the top three by 67%[1]), insufficient staff (54%), lack of political support (31%), and lack of infrastructure (21%)), followed by those related to the **socio-political barriers to data sharing** (benefits of sharing not clear (44%), and concerns regarding data sharing (23%)). The third major group of barriers was related to **capacity restraints** (insufficient know-how (26%), lack of appropriate software (26%), and insufficient guidance (10%)).

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[1] Country Participants selected their three most significant barriers; percentages refer to the number of Country Participants that selected each barrier as one of their three selections.

From the options below, select the 3 most significant barriers to the further development of your Node.

N=39 countries
Source: GBIF Participant Report 2009

Number of GBIF participants
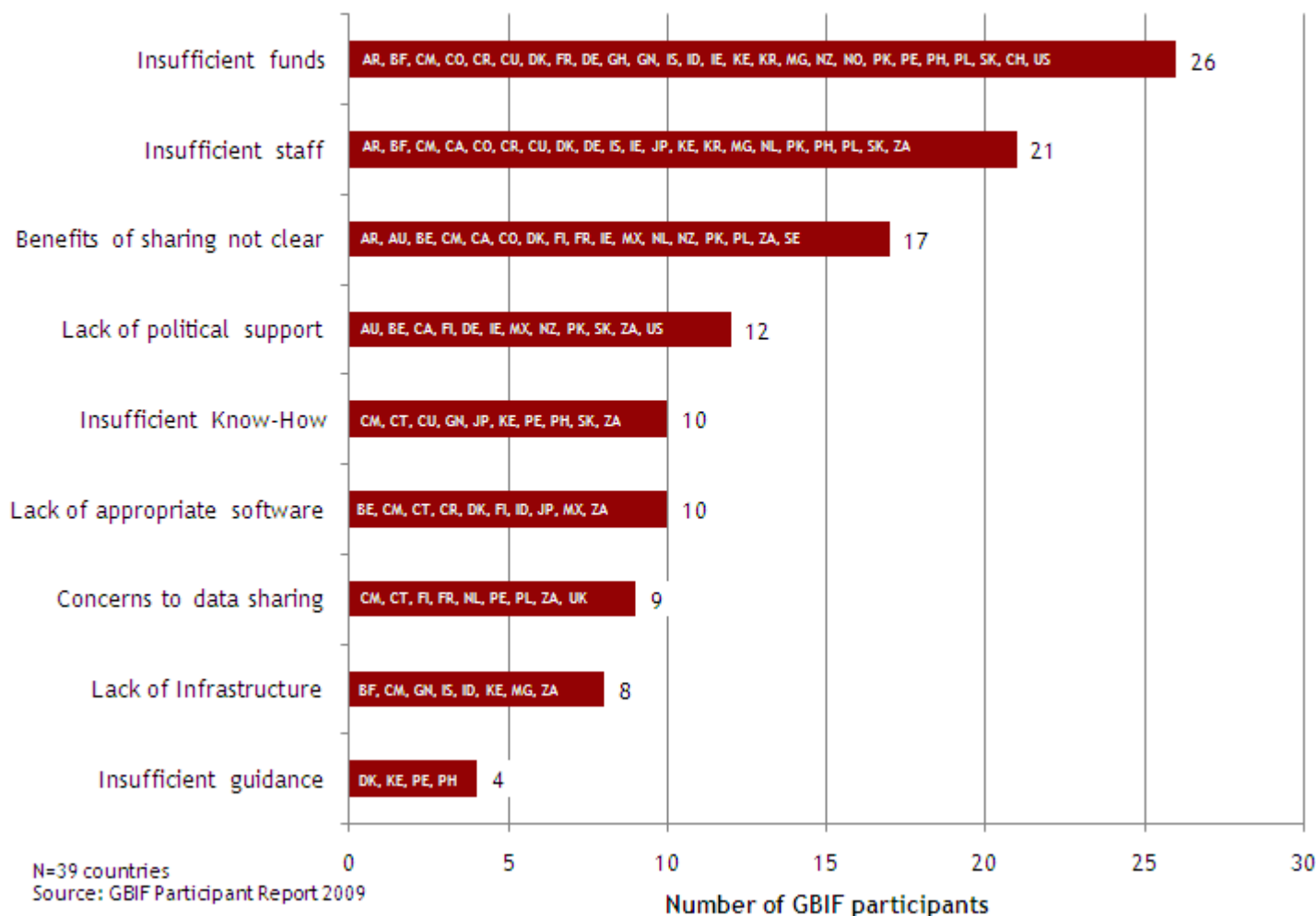
Figure 1-5 Barriers to the development of National Nodes (Country Participants selected three barriers each)

1.1.3. Work areas covered by National Nodes

The relative number of National Nodes publishing data to the GBIF network varied with countries' Participation status in GBIF (Figure 1-6). In 2009, 25 of the 26 Voting Country Participants (96%) were publishing data, compared with 6 of the 16 Associate Country Participants (38%). Of the Associate Organisation Participants, 35% were publishing data to the GBIF network in 2009 (Figure 4-3).

Membership status and Node data sharing activities

■ Publishing   ■ Non-Publishing

Voting Participants (countries)
- AR, AT, BE, CA, CR, DK, FI, FR, DE, IS, JP, KR, MX, NL, NZ, NO, PE, PT, SK, ZA, ES, SE, UK, US — 24
- IE — 1

Associate Participants (countries)
- AU, CT, CO, PK, PL, CH — 6
- BN, BF, CM, CU, GH, GN, ID, KE, MG, PH — 10

N=41 countries
Source: Primary occurence records as of Dec 2009

Number of GBIF participants
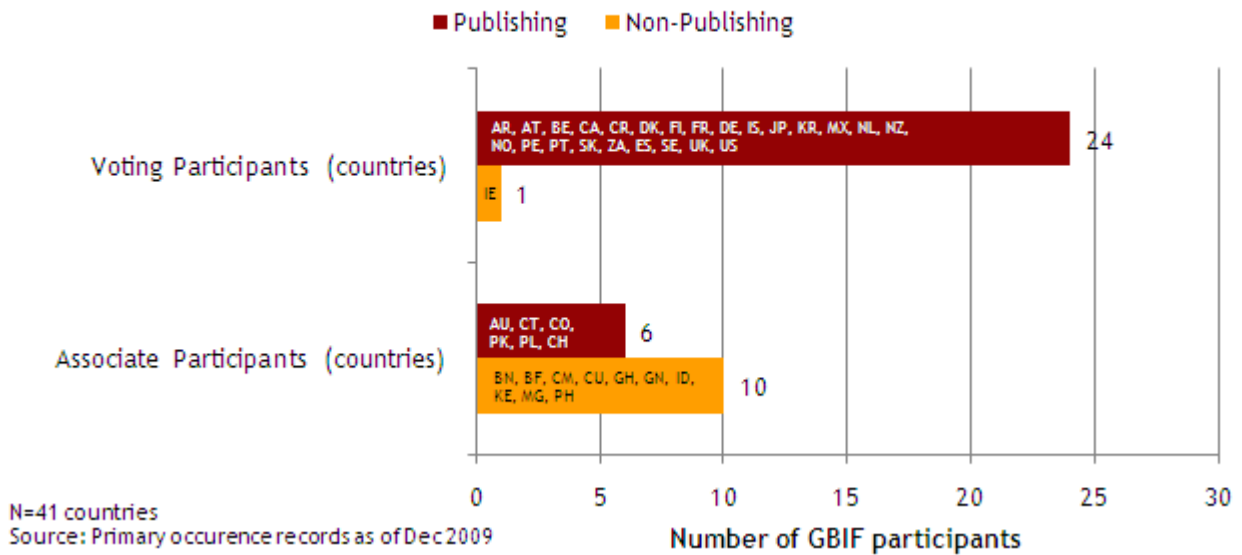
Figure 1-6 Data publishing by GBIF Participants

Country Participants reported how well they rated their coverage of various work areas in the 2008 to 2009 period (Figure 1-7). The strengths most frequently reported by National Nodes to have been 'well covered' in 2009 included coordination of national networks (rated as 'well covered' by 33%[2]), technical support and guidance to data holders and publishers (32%), activities to raise the visibility of the National Nodes (24%) and engagement of new data holder institutions and partners (23%). Areas most frequently identified by National Nodes as 'needed, but not covered' included GIS/data analysis and modelling (rated as 'needed but not covered' by 53%[3]), the development of information products and services to address end-user needs (51%), and fundraising (42%).

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[2] Percentages refer to the Country Participants that ranked a particular work area 'well covered'. Note that N varies for each service as some Country Participants did not rank all the work areas.
[3] Percentages refer to the Country Participants that ranked a particular work area 'needed, but not covered'. Note that N varies for each service as some Country Participants did not rank all the work areas.

How well were the following work areas covered by your National Node during the 2008-2009 period?
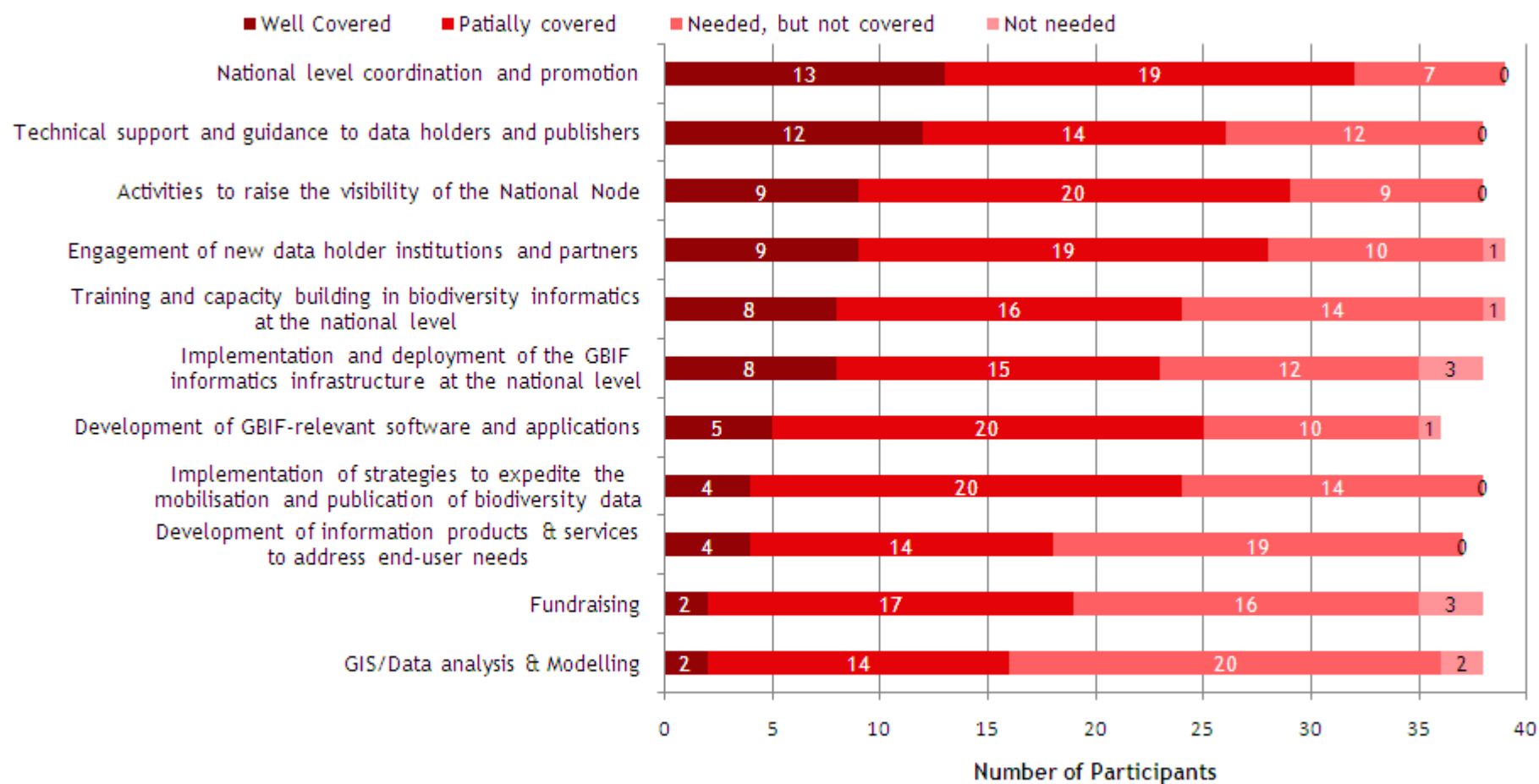
N=39 countries
Source: GBIF Participant Report 2009

Figure 1-7 Coverage of work areas by National Node

Country Participants were asked to report if their National Nodes had an online presence. Most National Nodes (80%) reported that they have their own website in place, with an additional 10% being mentioned only on the website of their host institution, and 10% having no website at all.

The National Nodes that had an online presence were asked to report if they also had a portal providing access to biodiversity data (Figure 1-8). Just over half (56%) of the National Nodes reported that they had implemented data portals to give access to biodiversity data. An additional 25% of National Nodes have data portals under development, and another 14% are planning to implement data portals. The remaining 5% of Country Participants had no plans yet to develop data portals and reported in their comments that lack of funding or capacity restraints were barriers to focussing resources on data portal development at the national level.

If your National Node is accessible online, does it have a portal that provides access to biodiversity data?

	Number of GBIF participants
Yes, data portal implemented and providing access to biodiversity data	AT, AU, CA, CT, CO, CR, FR, DE, IE, JP, KR, MX, NL, NO, PE, PL, ZA, ES, SE, UK — 20
Yes, data portal under development	AR, BE, BF, GH, IS, ID, PK, SK, CH — 9
Planned but not developed yet	CU, FI, GN, MG, US — 5
No, no plans yet to develop a data portal	DK, NZ — 2

N=36 countries
Source: GBIF Participant Report 2009

Figure 1-8 National Nodes' data portals

Country Participants were asked to report whether they maintained contact lists to communicate with the data holder institutions and other relevant stakeholders in their

countries (Figure 1-9), to give an indication of the size of the networks maintained by the National Nodes. The majority of National Nodes had specific contact lists for their national networks (74%), with an additional 15% having contact lists that were originally created for another purpose available for use with their networks. 8% were planning to develop a contact list and the remaining 3% reported that they did not have plans to develop a contact list for their national network.

33 Country Participants reported the approximate number of institutions and people in their national contact lists. Together, these 33 National Nodes had a total of 2464 institutions and 9174 persons involved in their networks.
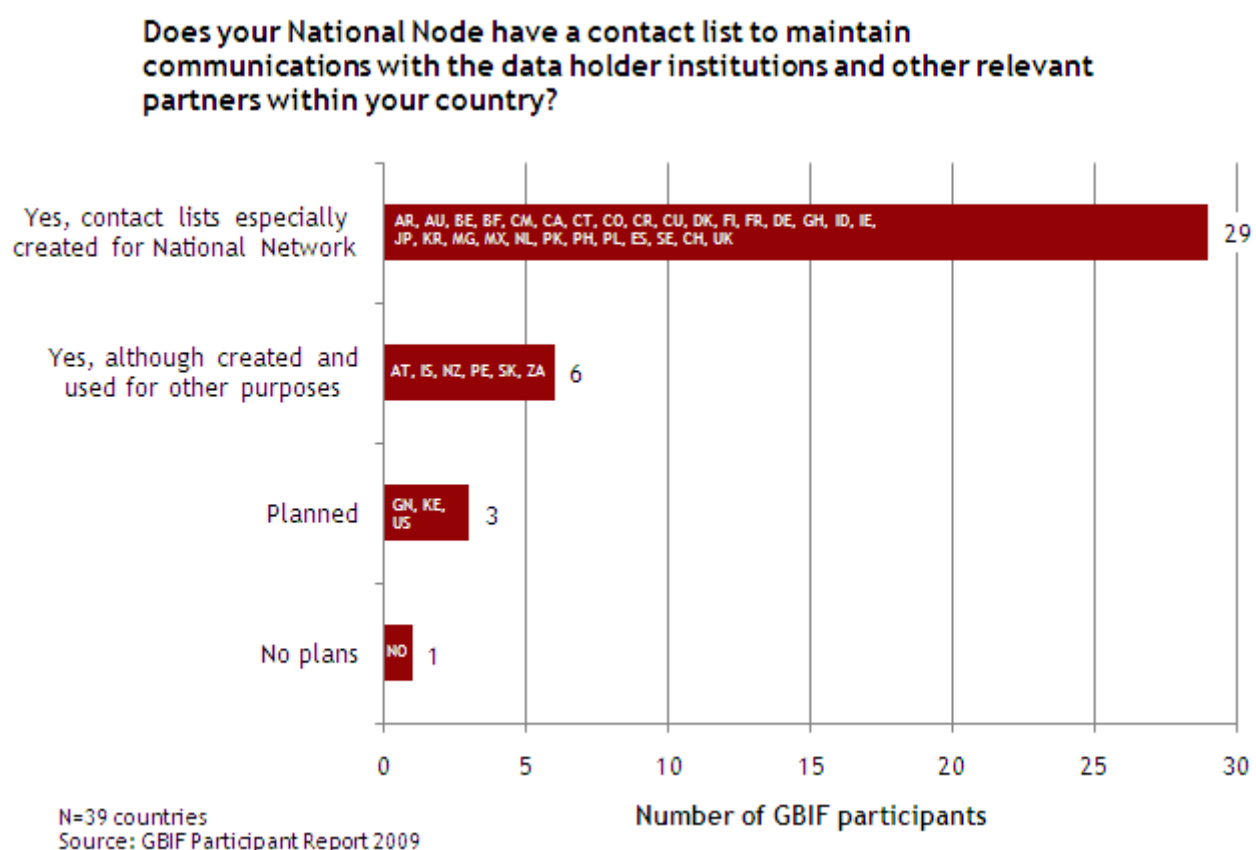
Figure 1-9 National Nodes' contact lists for national-level communication with data holder institutions and other relevant stakeholders

Country Participants also reported whether their National Nodes received information requests from ministries, national institutions and external organisations. Only 34% reported that they received information requests very often, although an additional 26% reported occasionally receiving such requests. 40% of the Country Participants reported that their National Nodes did not receive requests for information from external stakeholders.

The engagement of National Nodes in providing information to ministries and other institutions varied considerably across the reports provided. Some National Nodes reported that their role was to provide open access to data across the internet only, and that they were not involved in data analysis. Others were involved directly in tasks such as preparing the Country Report on Biodiversity, responding to information requests from ministries of science and environment, and advising the formulation of national environmental legislation or science policy.

Does your National Node receive information requests from ministries, national institutions, external organisations, etc.?

Yes, very often: AR, AT, BE, BF, CA, CO, CR, KE, KR, MX, PE, CH, UK — 13

Yes, but only occassionaly: CT, DK, FI, FR, DE, ID, IE, NO, PK, ES — 10

No: AU, CM, CU, GH, GN, IS, JP, MG, NL, NZ, PH, PL, SK, SE, US — 15

N=38 countries
Source: GBIF Participant Report 2009

Number of GBIF participants
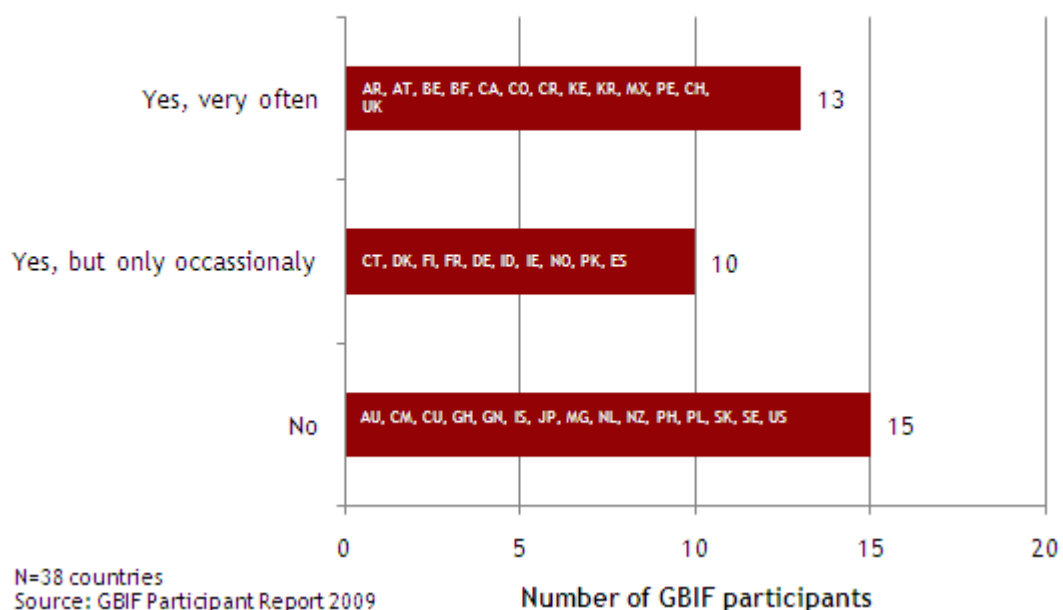
Figure 1-10 Information requests received by National Nodes

1.1.4. Factors related to the development of National Nodes

Correlations between factors reported on by Country Participants were investigated in order to gain further insight into the factors involved in the development of GBIF National Nodes.

A strong correlation was found between the National Nodes that were reported by Country Participants to have been formally established (for example, by a National Mandate) and the availability of a budget for their operations (Figure 1-11). The formal establishment of the National Nodes was also correlated to their predicted sustainability past 2010 (Figure 1-12), and to the receiving of information requests from ministries and other external organisations (Figure 1-13). Together, these results suggest important links between formal establishment (for example by national mandate) and the availability of sufficient support for the successful establishment of a sustainable and funded National Biodiversity Information Facility (BIF).

Budget & formal establishment

■ Formally established   ■ Not formally established

Budget available	AT, AU, BE, CA, CT, CO, DK, FI, FR, IE, JP, KR, NL, NO, PE, PL, ZA, ES, SE, CH, UK — CM
Only in-kinds support	AR, BF, CR, CU, GH, ID, MX, PK — DE, IS, SK, US
No support	KE — GN, NZ, PH

0%   20%   40%   60%   80%   100%

N=38 countries
Source: GBIF Participant Report 2009
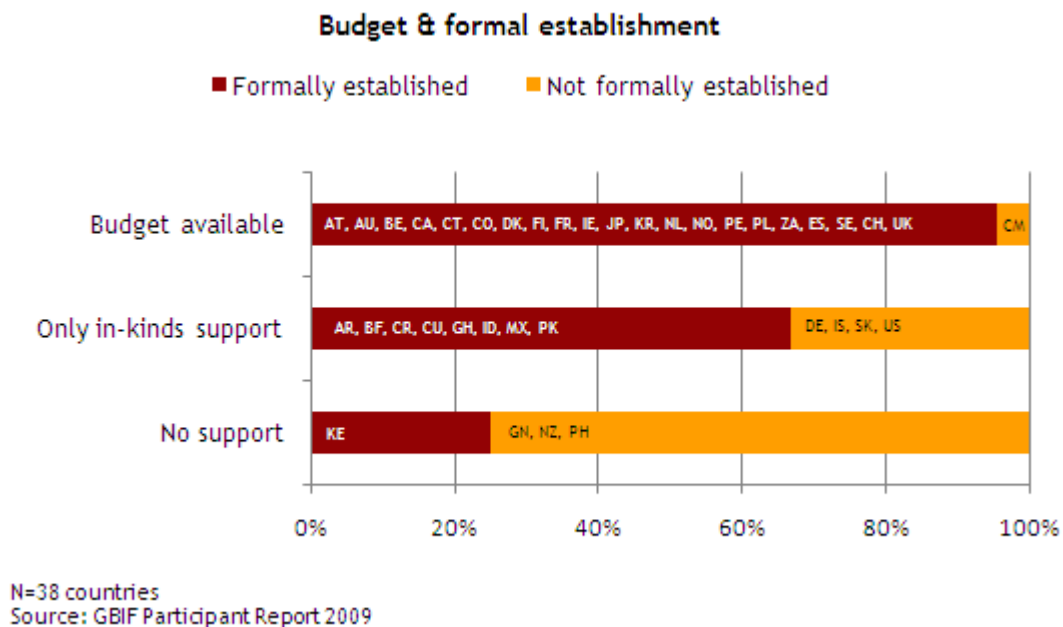
Figure 1-11 Correlation between the formal establishment of National Nodes and budget availability

Sustainability & formal establishment

■ Formally established   ■ Not formally established

Node maintained in 2010	AT, AU, BE, CT, CO, CR, FI, GH, NL, NO, PE, ZA, CH, UK — IS, MG
Node most likely be maintained in 2010	AR, BF, CA, CU, DK, FR, ID, IE, JP, KR, MX, PK, PL, ES, SE — DE, SK, US
Future uncertain	CM

0%   20%   40%   60%   80%   100%

N=35 countries
Source: GBIF Participant Report 2009
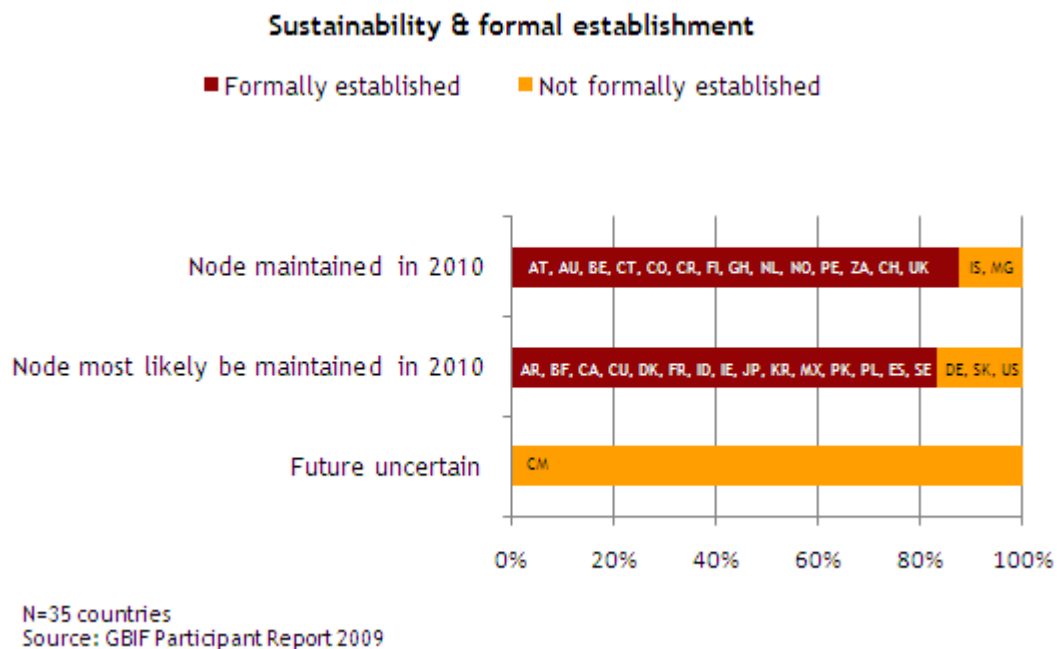
Figure 1-12 Correlation between the sustainability of National Nodes and their formal establishment

Request for Information & formal establishment
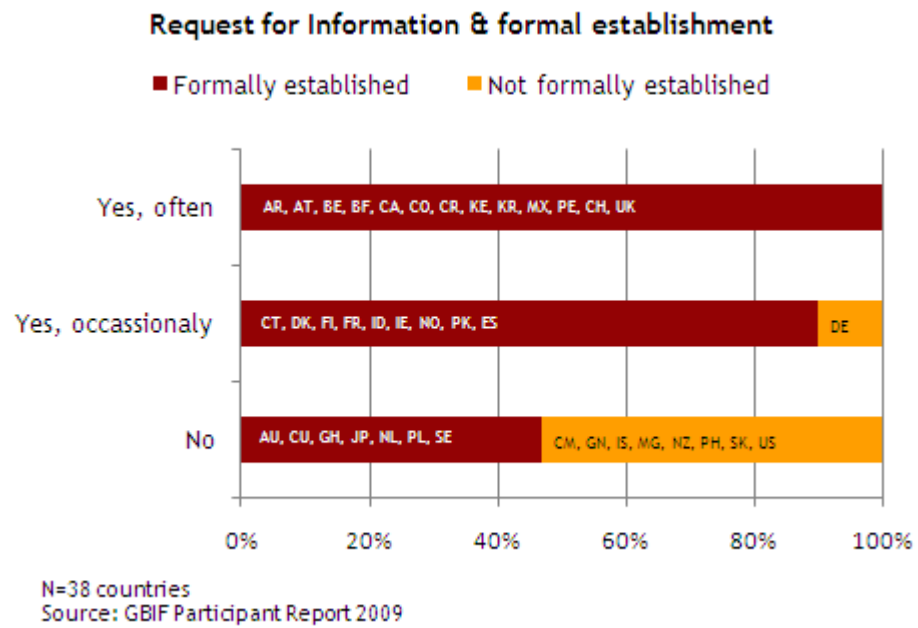
Figure 1-13 Correlation between those National Nodes receiving requests for information from external organisations and their formal establishment

1.2. Training

National Nodes are encouraged to share their capacity across the network by organising national and regional training events and by participating in mentoring activities with other Nodes. In addition, the training activities that take place across the GBIF network employ a train-the-trainers approach, such that all participants of a training event are encouraged to organise follow-up training events to train others with the experience they have gained.

GBIF Country Participants and Organisation Participants were requested to report on their training activities during the 2008 to 2009 period (Figure 1-14 and Figure 1-15). Only 29% of National Nodes and 18% of Organisation Participants reported involvement in mentoring activities. Larger groups of National Nodes and Organisation Participants reported involvement in training (46% and 39% respectively) and other international collaboration activities (53% and 74% respectively).
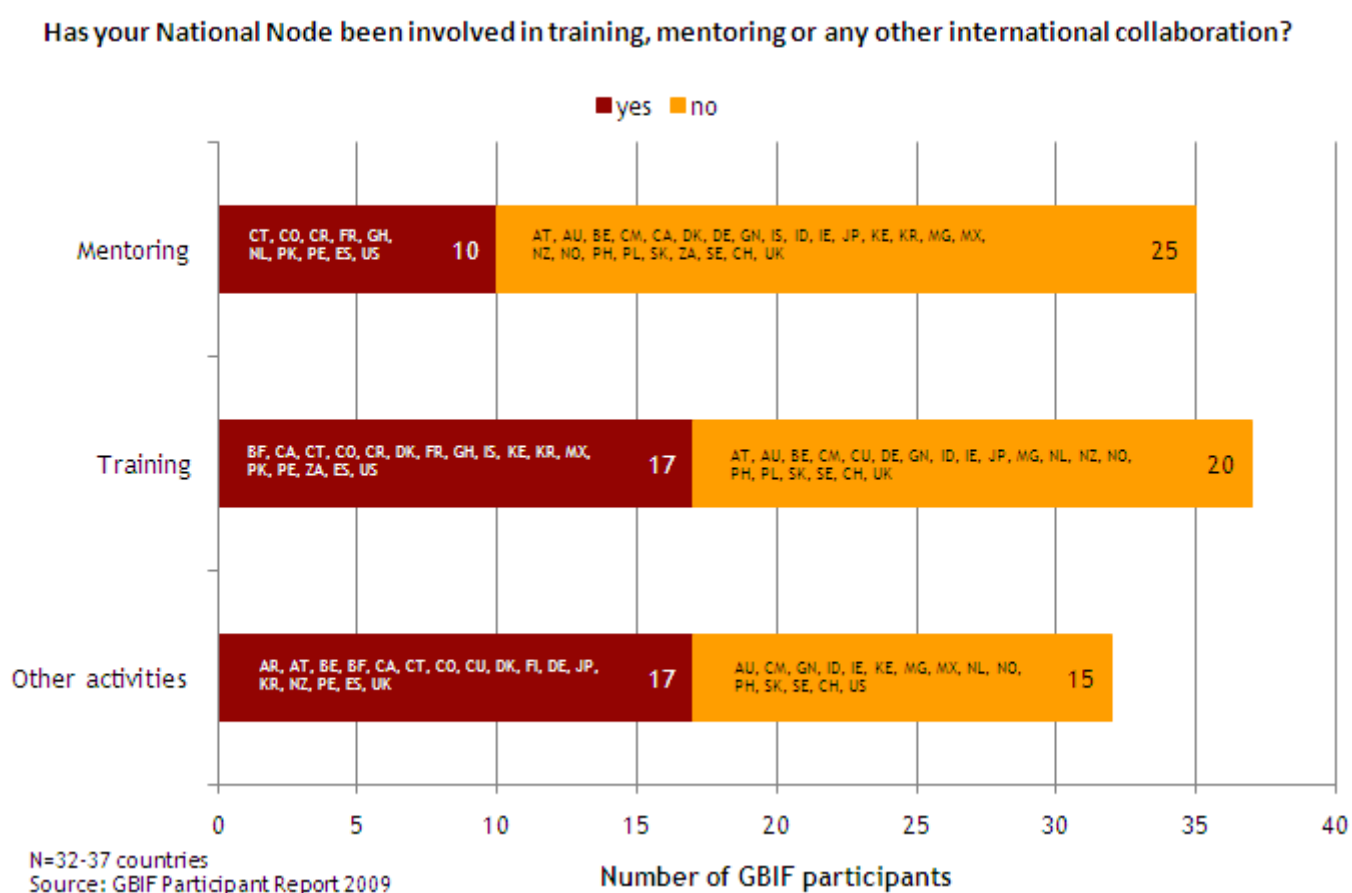
Figure 1-14 National Nodes' involvement in training and mentoring activities

Has your Organisation been involved in training, mentoring or any other international collaboration?
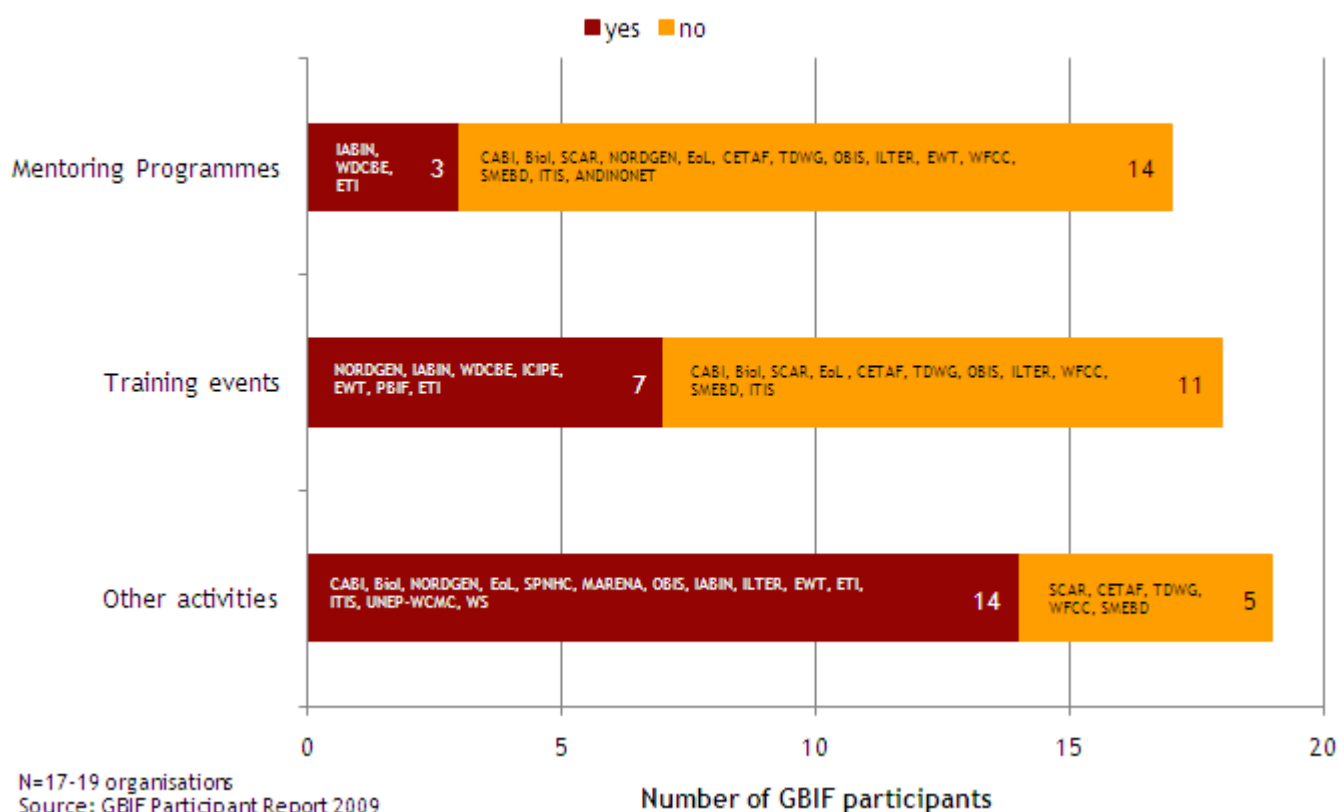
Figure 1-15 Organisation Participants' involvement in training and mentoring activities

Examples of other international collaboration activities that were mentioned in Participants' reports include participation in the E-biosphere conference, participation in GBIF Task Groups and other expert groups, organisation of regional Nodes meetings, regional cooperation, developing tools and data products with a view to making them available (with support) to other Participants in the region, collaborative regional projects and funding proposals, involvement in regional biodiversity informatics related initiatives, preparation of regional publications, demonstrations of the GBIF Integrated Publishing Toolkit at international meetings, and assisting other Nodes with writing proposals and reporting.

Country Participants also reported how many biodiversity-informatics training events their National Nodes organised from October 2008 to September 2009 (Figure 1-16). Approximately half of the National Nodes responded that they had not organised any training events (49%), although 13% responded that they had organised seven or more training events during this one-year period.

How many biodiversity informatics training events did your National Node organise during the October - September 2009 period?

Zero	AT, AU, BE, BF, CU, DE, GN, IS, ID, MG, MX, NL, NZ, PK, PH, PL, SK, SE, CH — 19
Between 1 and 3	AR, CM, CA, CR, FR, GH, JP, KE, NO, ZA — 10
Between 4 and 6	CT, FI, IE, KR, UK — 5
7 or more	CO, DK, PE, ES, US — 5

Number of GBIF participants

N=39 countries
Source: GBIF Participant Report 2009
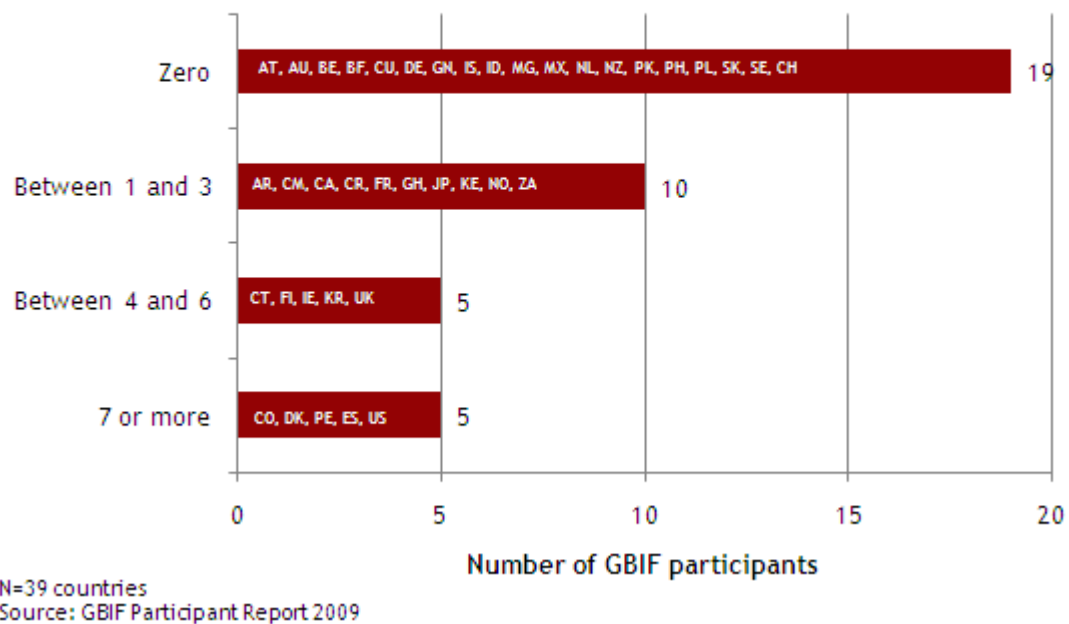
Figure 1-16 Number of training events organised by National Nodes

Participants reported a broad range of topics covered by their training events, including geo-referencing, metadata, installation and customisation of the GBIF Data Portal, ecological niche modelling, data quality, standards and protocols, biodiversity information management and biodiversity data use.

From the reports provided by Country Participants on the number of people trained during this period, it is estimated that the 20 countries that organised training events trained up to 1259 people between October 2008 and September 2009.

Country Participants were also asked to report if they had been involved in creating or adapting digital training materials on GBIF-related topics. 34% of Country Participants reported that they had been involved in such activities, with reported activities including translations of existing GBIF training materials, the production of e-books of the GBIF training manuals, and the development of new training materials (presentations and documents) on topics such as concepts and standards, geo-referencing, metadata documentation and an installation tutorial for the Integrated Publishing Toolkit.

1.3. Outreach

2009 was a year of growth for the GBIF network with three new Voting Country Participants, two new Associate Country Participants and four new Associate Organisation Participants joining the network[4]. Existing GBIF Participants often play a critical role in helping to expand the GBIF network, through active engagement in outreach activities and by representing GBIF in various international fora.

GBIF Participants were asked to report whether they had been involved in activities to help recruit new GBIF Voting or Associate Participants in 2009 (Figure 1-17 and Figure 1-18). 37% of Country Participants and 17% of Organisation Participants reported that they had been involved in outreach activities during the 2008-2009 period.
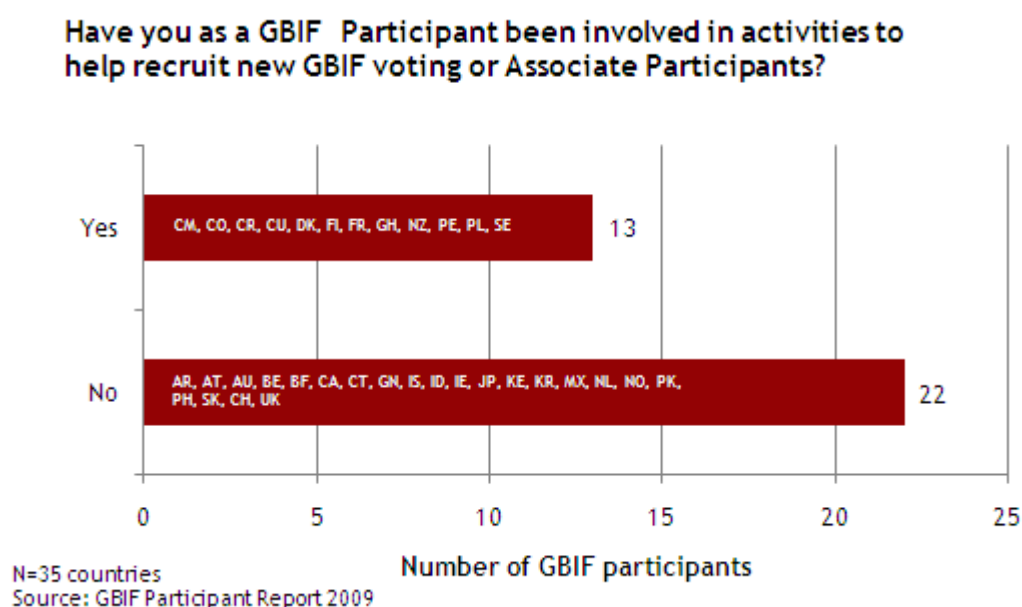
Figure 1-17 Country Participants' involvement in activities to recruit new GBIF Participants

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Has your organisation been involved in activities to help recruit new GBIF voting or Associate Participants?

Yes — WDCBE, BioNET, ETI, ANDINONET — 4

No — CABI, Biol, SCAR, NORDGEN, EoL , CETAF, TDWG, SPNHC, MARENA, OBIS, IABIN, ILTER, ICIPE, EWT, WFCC, SMEBD, PBIF, ITIS, UNEP-WCMC, WFCC, WS — 20

Number of GBIF participants

N=24 organisations
Source: GBIF Participant Report 2009
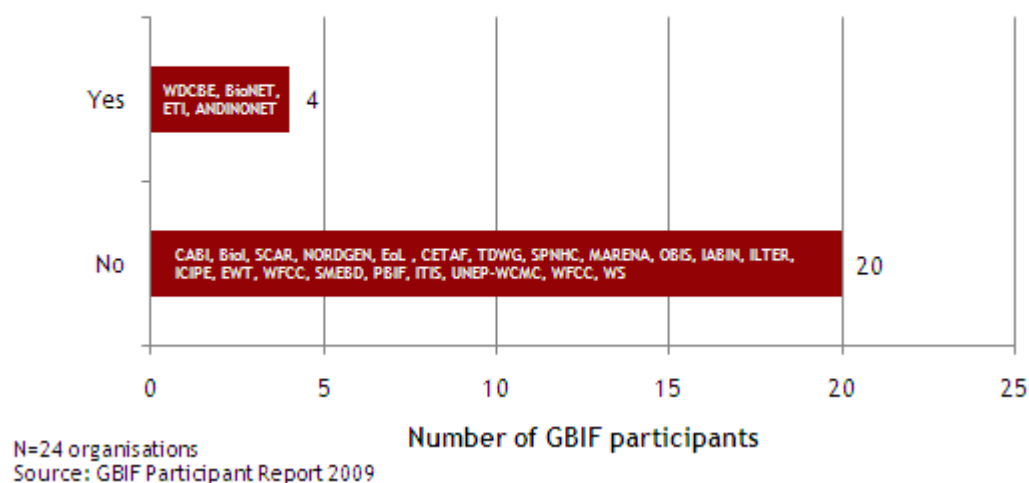
Figure 1-18 Organisation Participants' involvement in activities to recruit new GBIF Participants

The outreach activities mentioned by Participants in their reports were broad in range, and included sending information about GBIF to mailing lists, attending meetings with potential signatories of the GBIF Memorandum of Understanding, initiating contacts on behalf of the GBIF Secretariat, and promoting GBIF at international conferences and in international bodies.

2. Informatics Infrastructure and Portal

GBIF is constantly working to improve its informatics infrastructure to better support Participants' needs. Country Participants were asked to report their National Node's top three priorities with regards to informatics infrastructure (Figure 2-1). Overall, the priorities most frequently identified by Country Participants as within their top three were tools for harvesting and indexing data (rated as one of the top three by 33% of Country Participants[5]), tools for digitising data (31%) and tools for publishing data via GBIF (28%).

Additional priorities mentioned by Country Participants in their reports included online tools for data cleaning and validation, standards for ecological and monitoring data, tools for digitisation, support of the ABCD data exchange standard, tools for generating future scenarios using GBIF data, improved documentation of existing GBIF tools and training on the use of GBIF tools.

These priorities will help guide the implementation of GBIF's Work Programme 2009-2011 and the design of future Work Programmes.

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[5] Country Participants selected their three top priorities; percentages refer to the number of Country Participants that selected each priority as one of their three selections.

Please select the 3 top priorities or needs of your National Node with regards to informatics infrastructure using the categories indicated below.

Tools for harvesting and indexing data — BE, BF, CA, CT, CU, FI, FR, MX, NO, PH, ES, SE — 12

Tools for digitising data — AT, BF, CU, GN, IE, KR, MG, NL, PK, SK, ZA — 11

Tools for publishing data via GBIF — BE, BF, GN, IS, JP, KR, MG, PK, SK, UK — 10

Tools for documenting and sharing metadata — BE, CA, FI, GH, NO, PK, PH, PL, SE — 9

Tools for geospatial data visualisation — AR, AU, CO, IS, ID, PL, SK, US — 8

Tools for managing, integrating and publishing names data — AT, AU, CT, IS, ID, MX, PL, CH — 8

Standards for sharing new data types — CU, GN, JP, NL, PE, PH, ZA, ES — 8

Tools to customise and deploy data portals — AR, CA, CR, FI, KE, MG, US — 7

Training about the GBIF tools — CT, CR, GH, ID, KR, ZA — 6

Tools for data analysis — CO, CR, DK, FR, IE, MX — 6

Tools for cleaning data — DK, JP, NL, SE, UK — 5

Tools for managing controlled vocabularies — AT, AU, NO, PE, CH — 5

Documentation about the available GBIF tools — FR, GH, US — 3

Informatics Infrastructure Helpdesk — UK — 1

Number of GBIF participants

N=36 countries
Source: GBIF Participant Report 2009

Figure 2-1 Informatics priorities identified by Country Participants (Country Participants selected up to three priorities each)

2.1. Integrated Publishing Toolkit

In 2009, GBIF launched a first version of the Integrated Publishing Toolkit (IPT) for testing by the GBIF Participants. Country Participants reported on whether they had installed and used the IPT (Figure 2-2). 31% responded that they had already installed the IPT for testing purposes with an additional 43% reporting that they intended to do so in the near future. 10% of Participants responded that they did not have plans to use the IPT and 8% reported difficulties in successfully installing and using the IPT. A further 8% reported that they had not received information about the IPT.

Have you installed and used the GBIF Integrated Publishing Toolkit (IPT)?

Response	Countries	Number
Yes, but only for testing purposes	AT, BE, CA, CT, DK, FR, DE, IE, JP, MX, ZA, US	12
We have tried, but haven't been able to get the installation up and running	CO, CU, SE	3
Not yet, but in the near future	AR, BF, CM, CR, GH, GN, IS, KR, MG, NL, NZ, NO, PK, PH, PL, SK, UK	17
There are no plans in our Participant BIF to install/use the GBIF IPT	AU, FI, ES, CH	4
We don't have any information about the IPT	ID, KE, PE	3

N=39 countries
Source: GBIF Participant Report 2009

Figure 2-2 Installation and use of the Integrated Publishing Toolkit by Country Participants

Those Country Participants that had installed the IPT were asked to report how well it suited their needs and fulfilled their expectations (Figure 2-3). The majority of Participants (58%) responded that it only partially fulfilled their needs, with some key features or functionalities missing.

Does the IPT suit your needs and fulfill your expectations?

N=12 countries
Source: GBIF Participant Report 2009
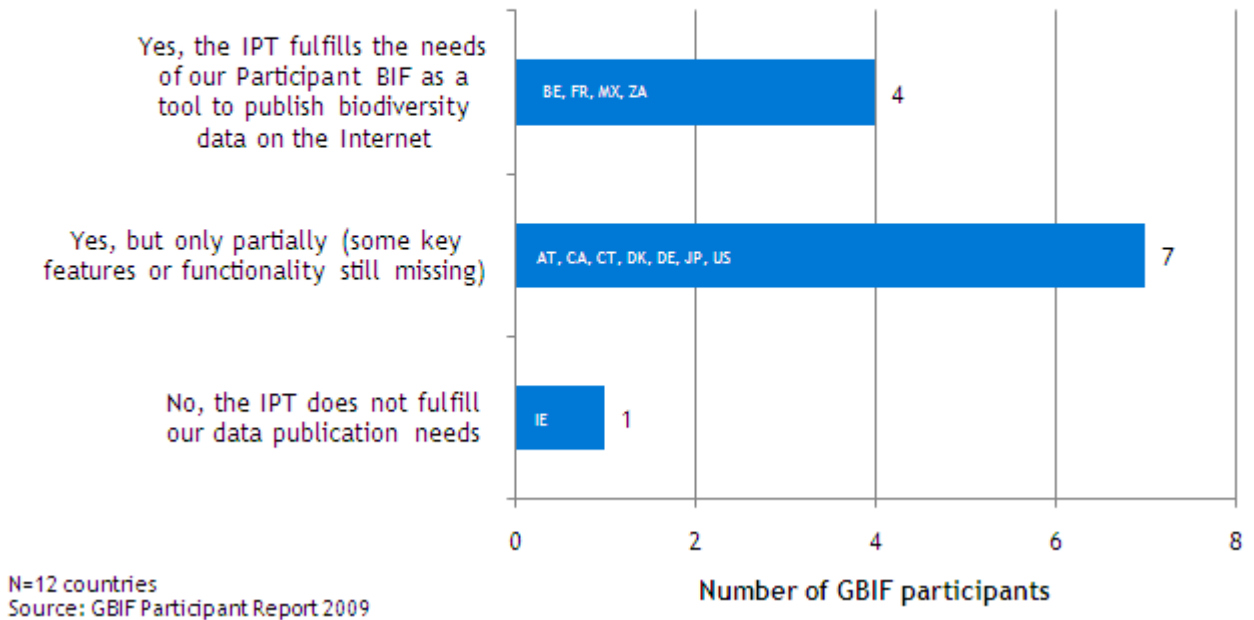
Figure 2-3 Country Participants' impressions of the Integrated Publishing Toolkit

In their reports, some of the additional requirements mentioned by Country Participants included improved functionality for data validation and cleaning, the need to support additional metadata standards, improved automatic mapping and the possibility to calculate or concatenate fields, the ability to publish Chinese information, and better documentation, online help, and simpler wizards.

2.2. GBIF Data Portal

GBIF Participants were asked to report on their assessment of how well the GBIF Data Portal serves the needs of their user communities (Figure 2-4 and Figure 2-5). 28% of Country Participants responded that it fully met the needs of their user communities, but the majority (58%) reported that it only partially served these needs. The remaining 14% of Country Participants reported that the GBIF Data Portal did not meet the needs of their user communities.

Does the GBIF Data Portal serve the needs of your user community?

N=36 countries
Source: GBIF Participant Report 2009
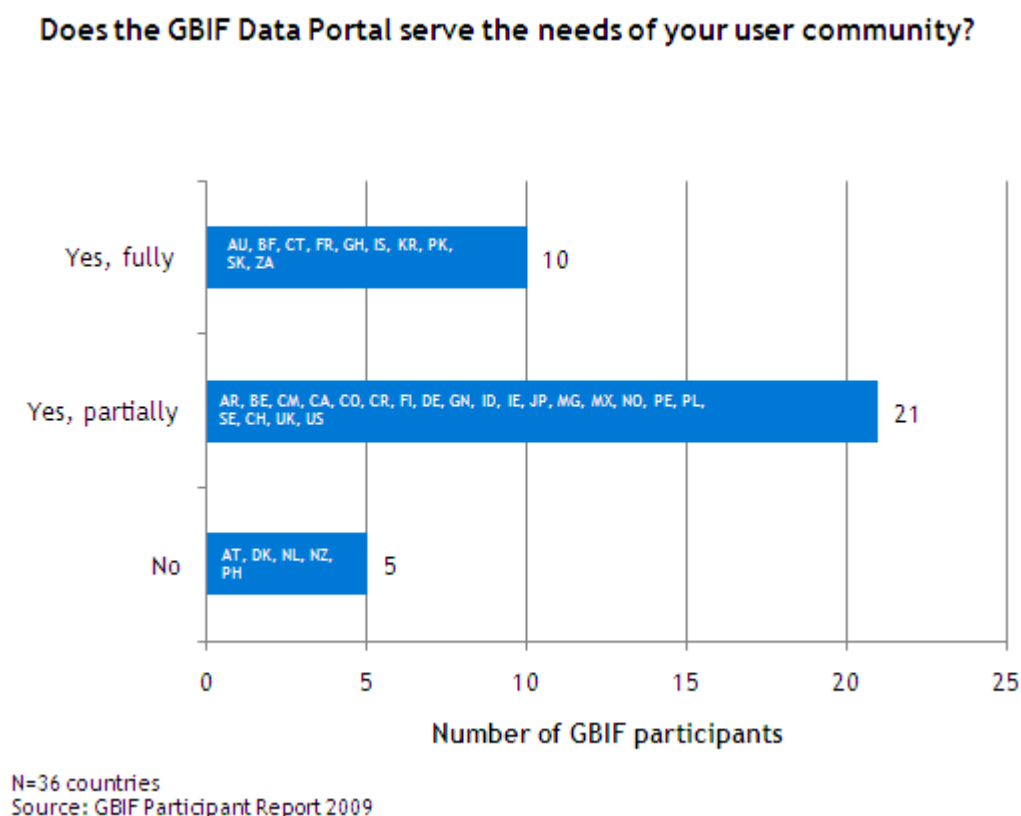
Figure 2-4 Fulfilment of Country Participants' user-needs by the GBIF Data Portal

Similar responses were received from Organisation Participants, with 13% reporting that the Data Portal fully meets their needs, 57% reporting that it partially meets their needs, and only 4% reporting that it does not meet their needs. The remaining 26% responded that the Data Portal did not meet their needs because data usage/mobilisation was not the core mission of their organisation.

Does the GBIF Data Portal serve the needs of your Organisation?

Yes, fully	IABIN, SMEBD, ANDINONET — 3
Yes, partially	Biol, SCAR, NORDGEN, EoL , MARENA, OBIS, WDCBE, ICIPE, EWT, ETI, ITIS, UNEP-WCMC, WS — 13
No, as data usage/mobilisation is not our core mission	CABI, CETAF, TDWG, SPNHC, BioNET, PBIF — 6
No	WFCC — 1

Number of GBIF participants
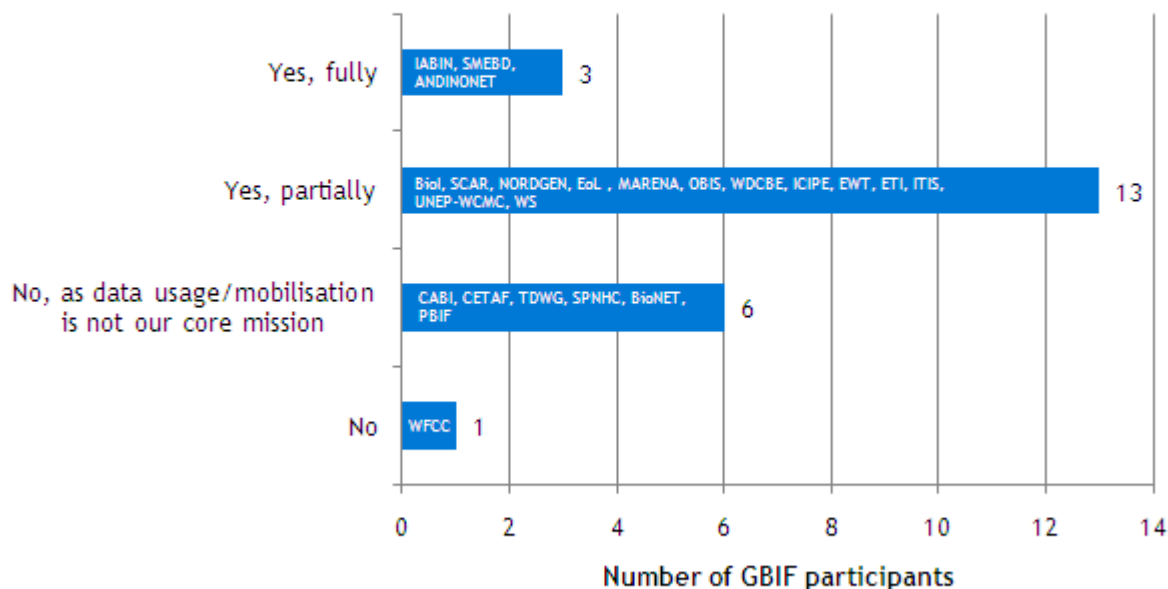
N=23 organisations
Source: GBIF Participant Report 2009

Figure 2-5 Fulfilment of Organisation Participants' user-needs by the GBIF Data Portal

Some Participants included comments in their reports on additional functionalities they would like to see in the GBIF Data Portal. These included more advanced queries, the ability to subset data to regions within a country, the ability to provide access to a broader range of data types (including metadata, habitat and ecosystem data), more detailed maps, interfaces in different languages, and improvements to the data quality and taxonomic backbone. One Participant also reported that this was difficult to assess without reliable end-user needs surveys at the national level, and that this could also be done globally by the GBIF Secretariat.

3. Biodiversity Science: Content and Use

3.1. Discovery and Metadata

In 2009, GBIF engaged in scoping requirements and planning for the construction of a distributed metadata system to enable better discovery and use of primary biodiversity data. To understand how Country Participants currently manage their metadata, Participants were asked to report on whether their National Nodes had metadata catalogues for managing national biodiversity datasets and information resources (Figure 3-1). 38% of Country Participants responded that a national level metadata catalogue was already in place, while the largest group (41%) reported that they were planning to implement a national metadata catalogue. The remaining 21% reported that no national metadata catalogue was available in their country.

Does your National Node have a metadata catalogue for the biodiversity datasets and information resources within your country?

N=39 countries
Source: GBIF Participant Report 2009
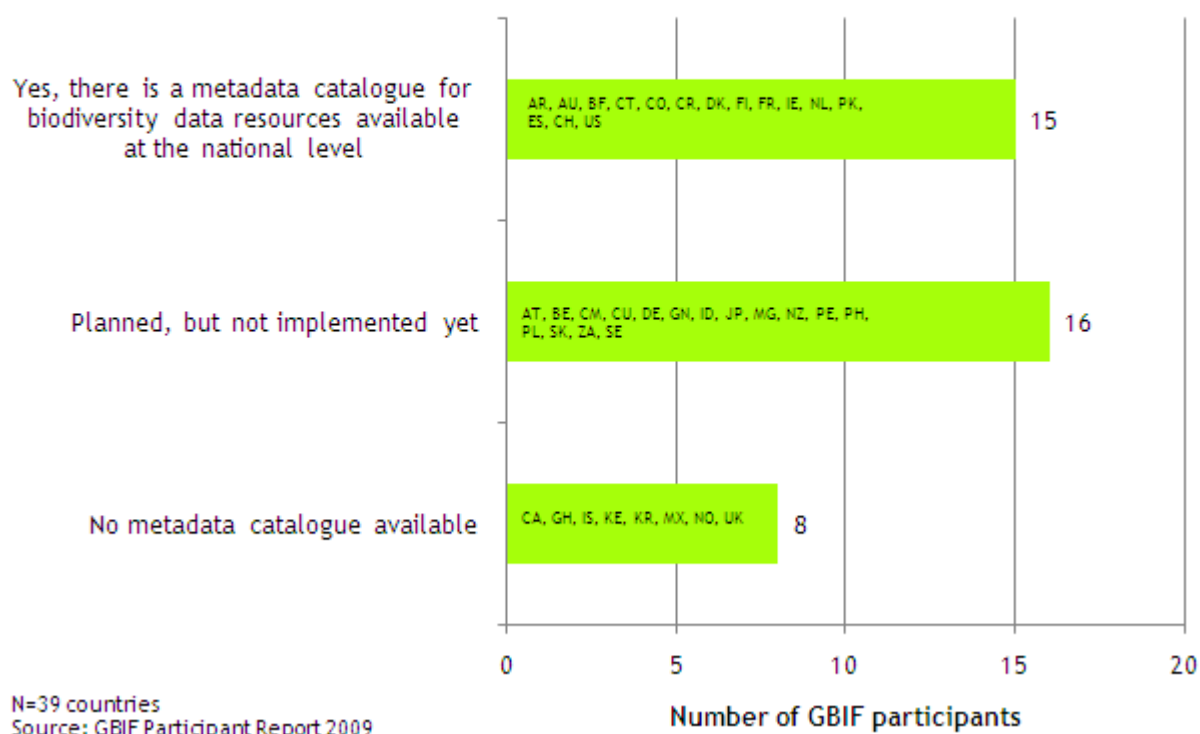
Figure 3-1 National metadata catalogues

Country participants also reported on their national policies regarding the provision of metadata for biodiversity data (Figure 3-2). 11% of Country Participants reported that a

national-level policy was in place, and 30% reported that their National Nodes were implementing metadata policies by only accepting datasets accompanied by metadata. 32% of Country Participants reported that they were in discussions regarding implementing metadata policies, and the remaining 27% reported that no specific actions had been taken concerning metadata.

Is there a policy in place regarding the provision of metadata for biodiversity data?

N=37 countries
Source: GBIF Participant Report 2009
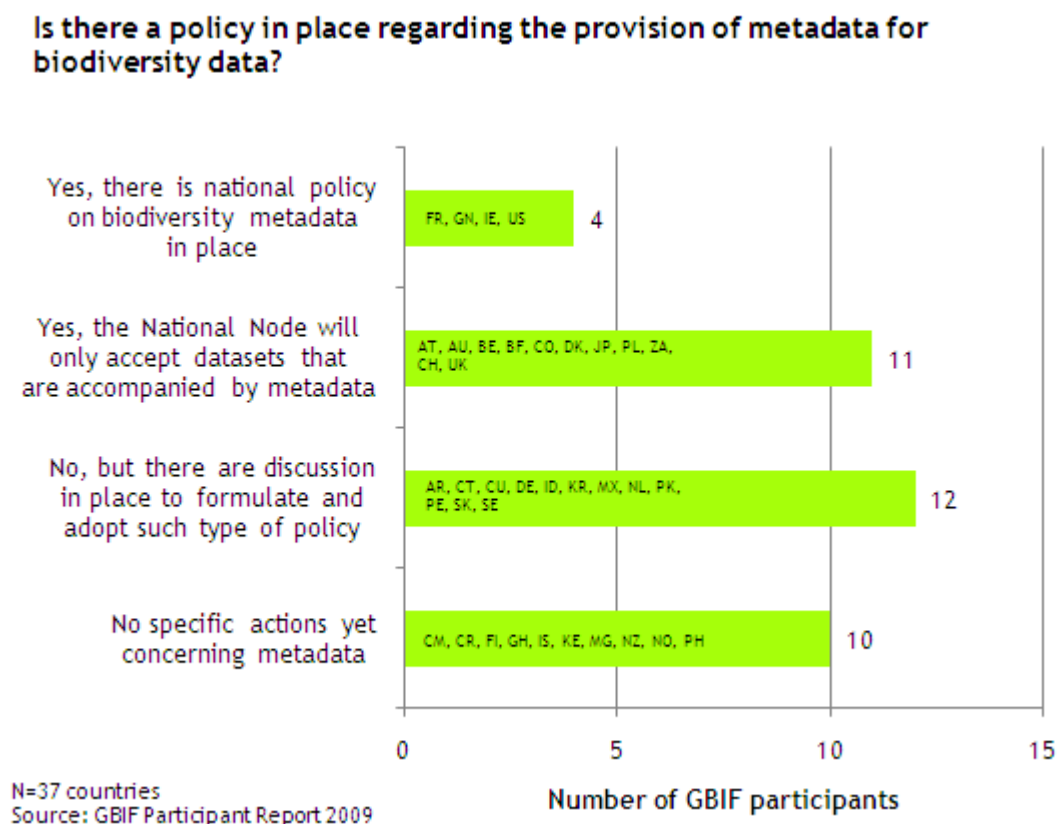
Figure 3-2 National metadata policies

3.2. Digitisation and Mobilisation

3.2.1. Strategies for data discovery and mobilisation

Specific consultations with Country Participants on data discovery and mobilisation strategies were carried out during 2009, as part of the DIGIT work area activities, which pointed to the need for systematic Content Needs Assessments to influence data discovery and mobilisation strategies. Country Participants were asked to report on their assessments of the biodiversity data and information needs of the main stakeholders within their countries. Only 15% reported that they had completed a systematic assessment, although an additional 21% reported that they were in the process of carrying out systematic national assessments. 28% reported that they had carried out assessments, although not systematically, and 8% had planned to carry out an assessment. The remaining 28% had no plans to carry out an assessment of this kind.

Have you carried out an assessment of the biodiversity data and information needs of the main stakeholders within your country?

N=39 countries
Source: GBIF Participant Report 2009
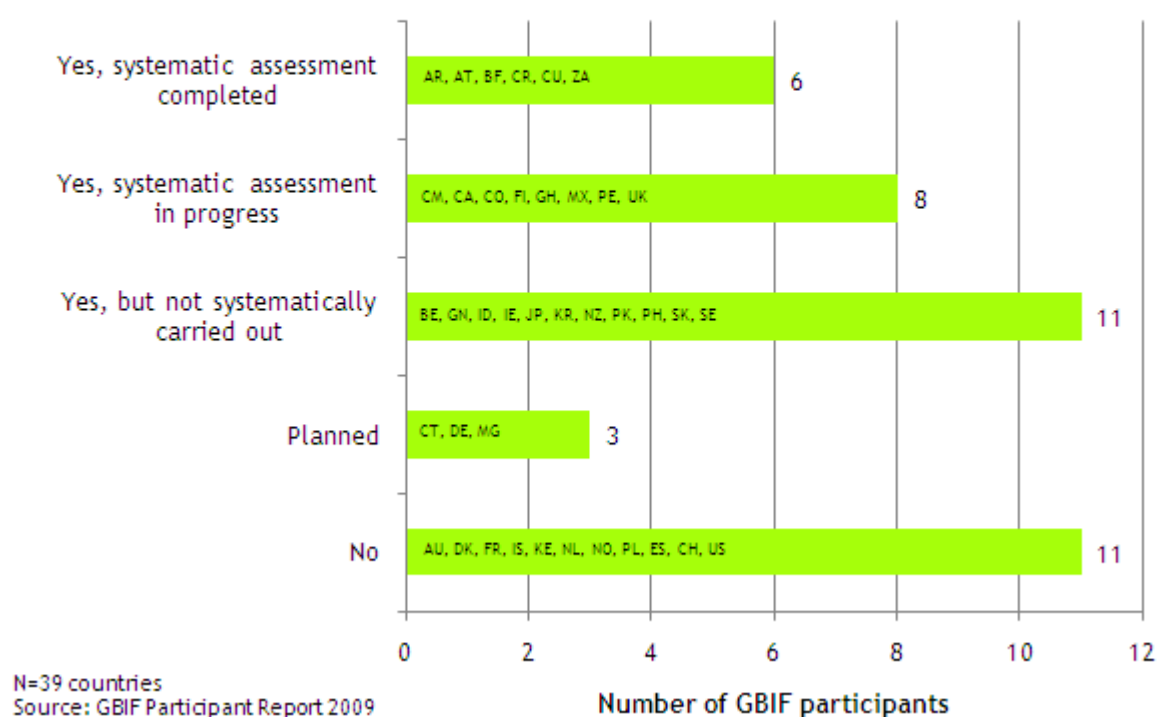
Figure 3-3 Systematic assessments of biodiversity data and information needs by Country Participants

With regards to moving towards more strategic data mobilisation, Country Participants were asked if they had put in place national-level strategies for the discovery and mobilisation of biodiversity data (Figure 3-4). While only 23% of Participants reported that a national strategy

was already in place, there appeared to be a trend across Participants to implement these kinds of strategies, with an additional 59% of respondents reporting that they are in various stages of planning towards implementing national-level strategies.   The remaining 18% reported that they did not have a national-level strategy in place.

Does your National Node have a national-level strategy for the discovery and mobilisation of biodiversity data in place?

N=39 countries
Source: GBIF Participant Report 2009
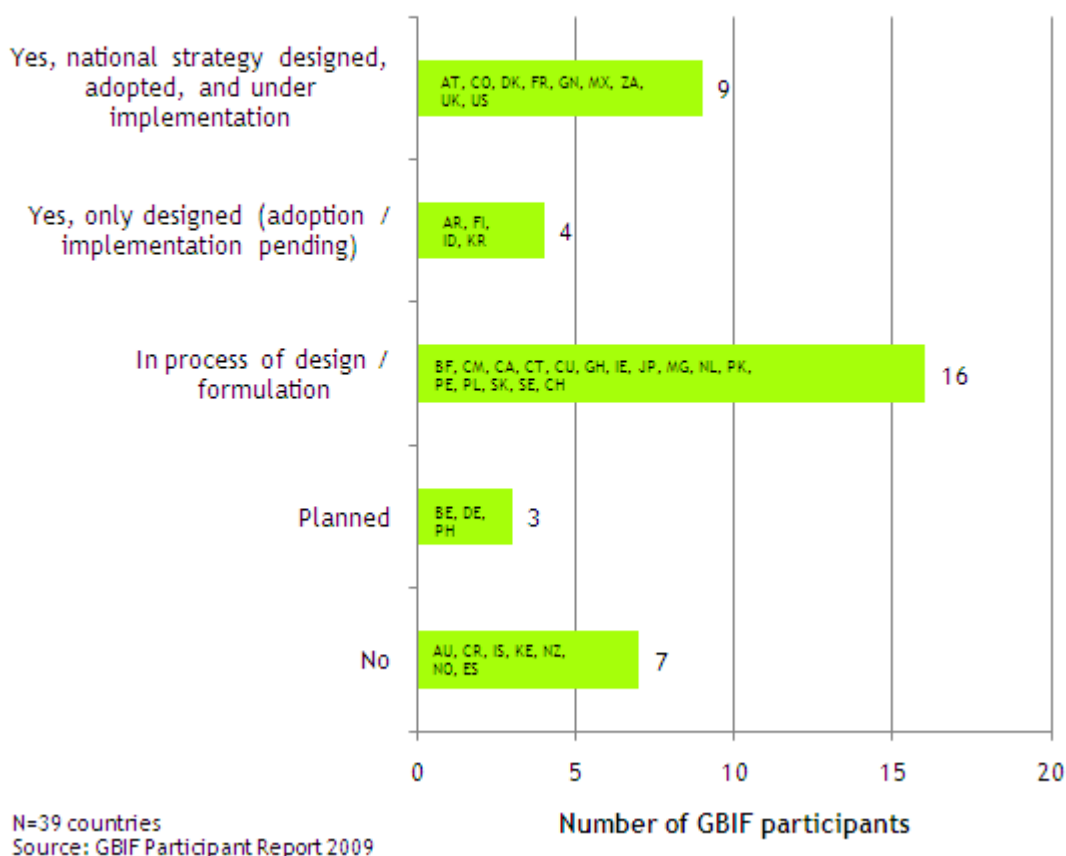
Figure 3-4 National-level strategies for the discovery and mobilisation of biodiversity data

3.2.2. Intellectual Property Rights

Implementing a suitable Intellectual Property Rights (IPR) framework is critical to encouraging data publishing via GBIF.   Participants were asked to report on whether the GBIF IPR framework sufficiently addresses the needs and concerns from their communities of data holders and authorities, with respect to publishing data on the internet (Figure 3-5 and Figure 3-6).

A large group of Participants reported that they had no opinion or experience on the issue of IPR (38% of Country Participants and 31% of Organisation Participants). For the Country Participants, 31% reported that the current GBIF IPR framework is adequate, with an additional 31% reporting that minor or major issues were still pending. The IPR framework was reported to better meet the needs of the Organisation Participants, of which 62% reported that the current framework was adequate, and only 8% reported some minor issues remaining.

Does the GBIF Intellectual Property Rights (IPR) framework sufficiently address the needs and concerns from your community of data holders and authorities with respect to publishing data on the Internet, or are there still issues to be addressed?

Current IPR framework is adequate, no issues identified — AR, AU, BE, BF, CA, CR, FR, DE, PE, SK, ZA, US — 12

Current IPR framework is adequate, although some minor issues still exist — CO, JP, MG, NO — 4

Current IPR framework is inadequate, major IPR issues still pending — AT, DK, FI, IS, KR, PL, ES, UK — 8

No opinion/experience on this — CM, CT, CU, GH, GN, ID, IE, KE, MX, NL, NZ, PK, PH, SE, CH — 15

Number of GBIF participants

N=39 countries
Source: GBIF Participant Report 2009
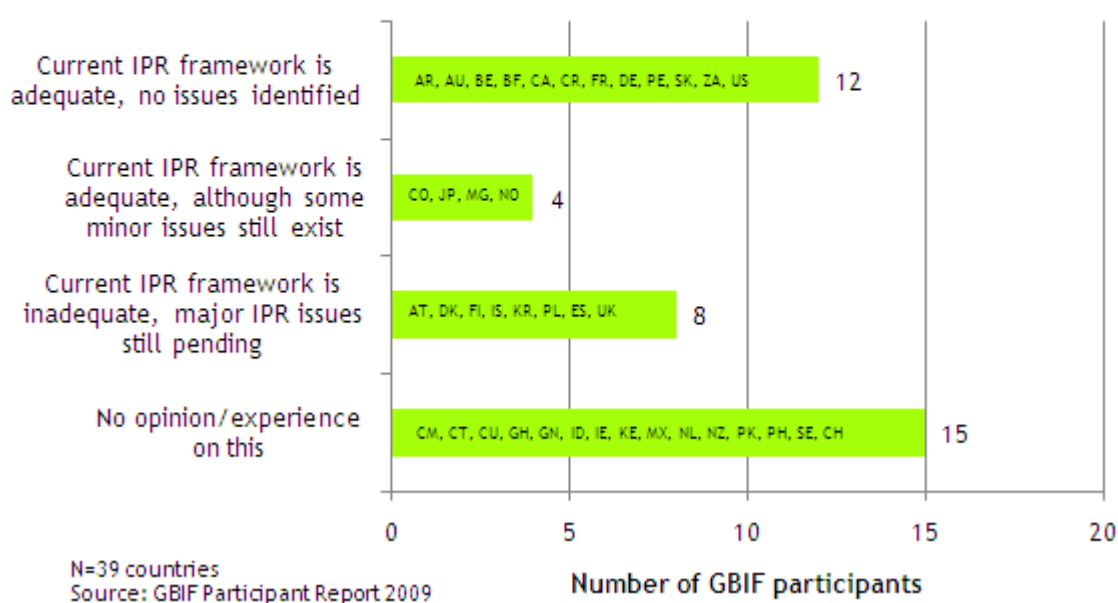
Figure 3-5 Country Participants' needs with regards to Intellectual Property Rights

Does the GBIF Intellectual Property Rights (IPR) framework sufficiently address the needs and concerns from your community of data holders and authorities with respect to publishing data on the Internet, or are there still issues to be addressed?

N=13 organisations
Source: GBIF Participant Report 2009
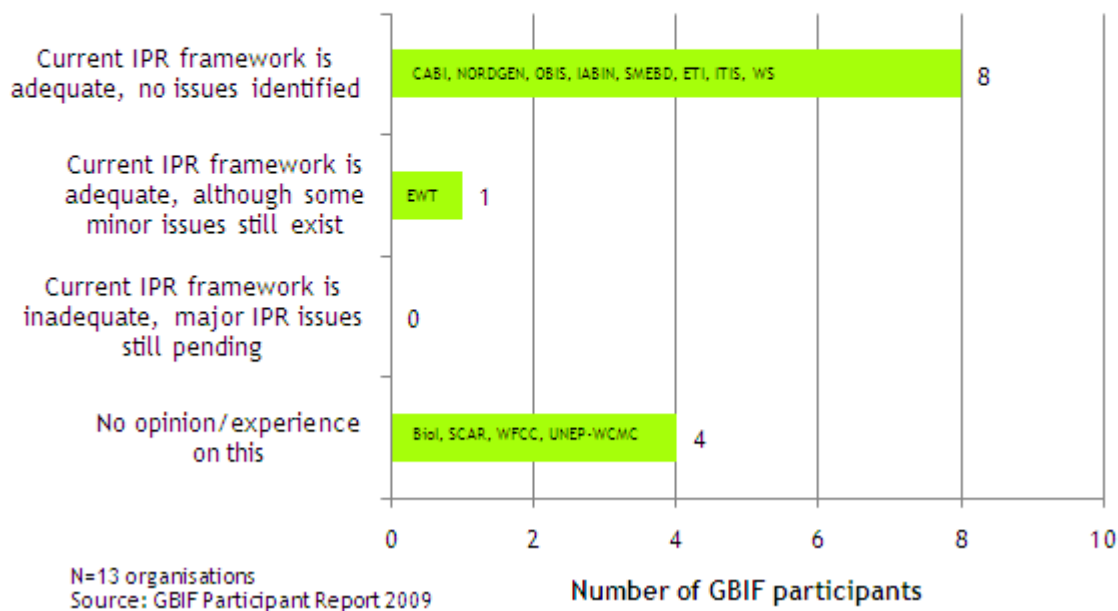
Figure 3-6 Organisation Participants' needs with regards to Intellectual Property Rights

IPR issues identified by Participants in their reports were mostly related **to creating incentives for data publishing** (such as: development of a citation index to encourage authors to publish data in a GBIF-compatible form, mechanisms to enable primary data publication to count as a career merit, improving the credit given to scientists for data publishing, many people are still very reluctant to make their data available online), **improved citation mechanisms** (such as: the need for credentials relating to the data provider to be associated to each data record when a dataset is downloaded, clearer citation mechanisms of GBIF-derived data when using multiple datasets), and **mechanisms to track the use of data** published to GBIF (such as: systems to enable each data contributor to demonstrate how their data is being used, measures of data usage by country of origin, better tracking of data accessed).

3.2.3. Data mobilisation by GBIF Participants

The bulk of primary biodiversity data records (90%) published to the GBIF network in 2009 were published by Voting Country Participants (Figure 3-7). Associate Organisation Participants contributed 7% of the total, followed by Associate Country Participants (and economies) with 3%.

Primary Occurence records

■ Voting Participants (Countries)   ■ Associate Participants (Countries)   ■ Other Associate Participants (Organisations)

5.7 Million

14.3 Million

189.4 Million

N=42 countries; 26 organisations
Source: GBIF Participant Report 2009, Primary
occurence records as of Dec 2009
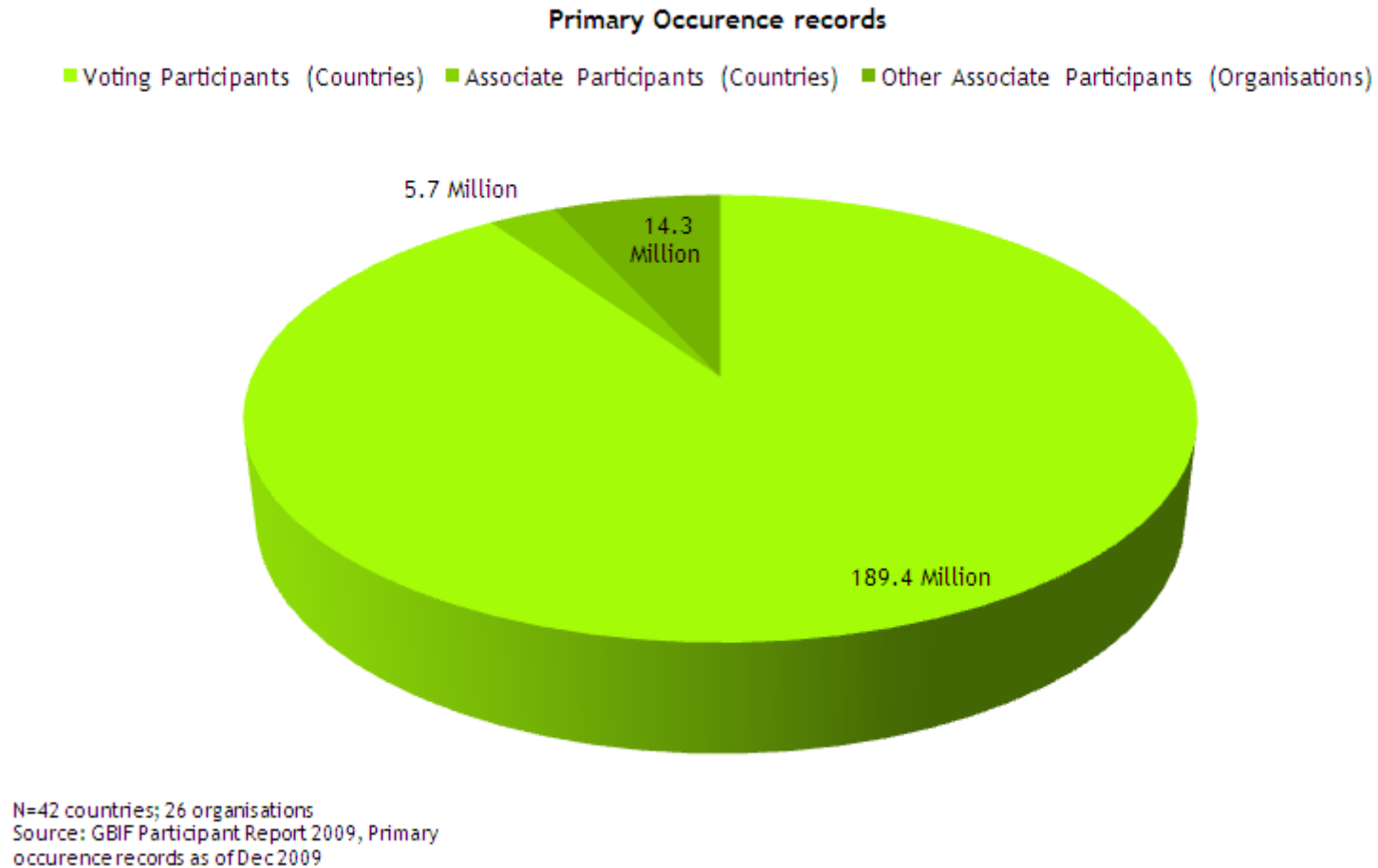
Figure 3-7 Amount of data published by Voting Country Participants, Associate Country Participants (and economies) and Associate Organisation Participants

Despite the setting of ambitious targets for data mobilisation, 2009 was a year of linear growth in the number of primary biodiversity data records mobilised by the GBIF network. The number of accessible records in the GBIF network increased by 20% from 163 million in December 2008 to 196 million in December 2009. The detailed breakdown of the number of records in the GBIF index per GBIF Participant is given in Annex 5. GBIF Participants reported whether they had implemented specific actions from October 2008 to accelerate the mobilisation of data towards the 2 billion records Work Programme target [6] (Figure 3-8 and Figure 3-9). Only 24% of Country Participants reported that specific actions were in place, although an additional 32% reported either planned or partially implemented activities. The largest group (45%) reported no specific actions or plans towards accelerating data mobilisation. Of the 13 Organisation Participants that provided reports on such acceleration actions, the majority had specific actions in place (38%), partially implemented (15%) or planned (15%), compared with 31% that reported that no specific actions had been implemented.
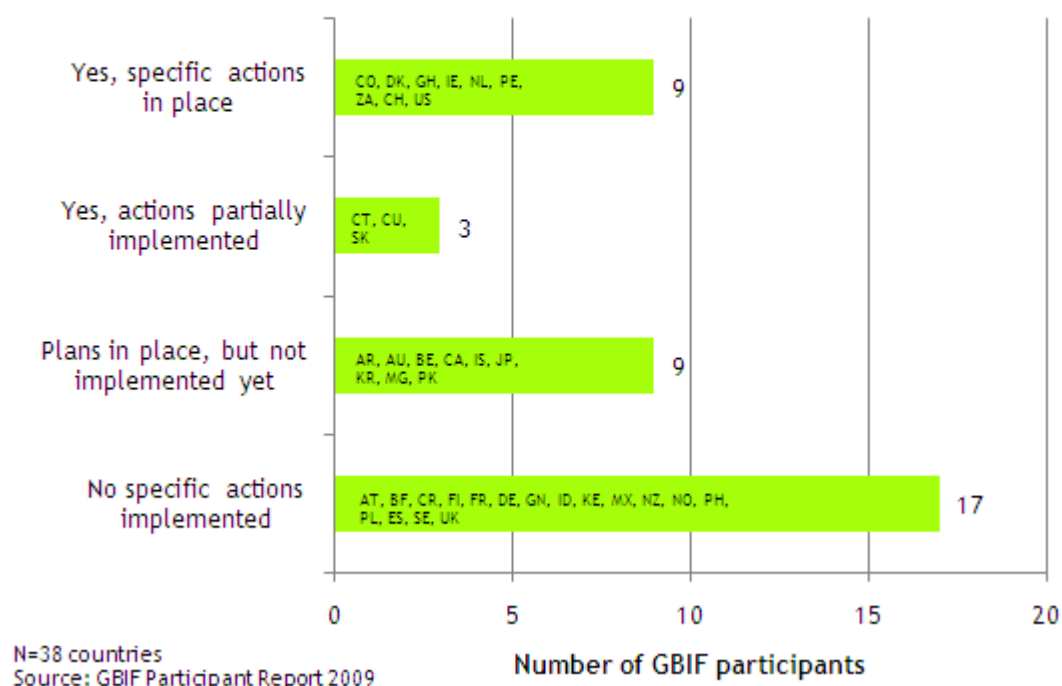
Figure 3-8 Actions taken by Country Participants to accelerate data mobilisation

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[6] Source: GBIF Work Programme 2009-2010 p.36

Examples of specific actions taken towards the 2 billion target reported by Participants included contacting specific major data providers, developing extensions to the Darwin Core standard to enable the publication of new data types, involving new user groups in the network to promote data sharing, engaging in mentoring projects with other Nodes, involvement in digitisation activities (sometimes funding these), focusing on observational/monitoring data, preparing concept papers for the government, involvement in SEP-CEPDEC, and the organisation of workshops with specific data holders.

Have you taken any specific actions since October 2008 to accelerate the mobilisation of primary biodiversity records towards the 2 billion records target (i.e. actions to go beyond the linear increase)?
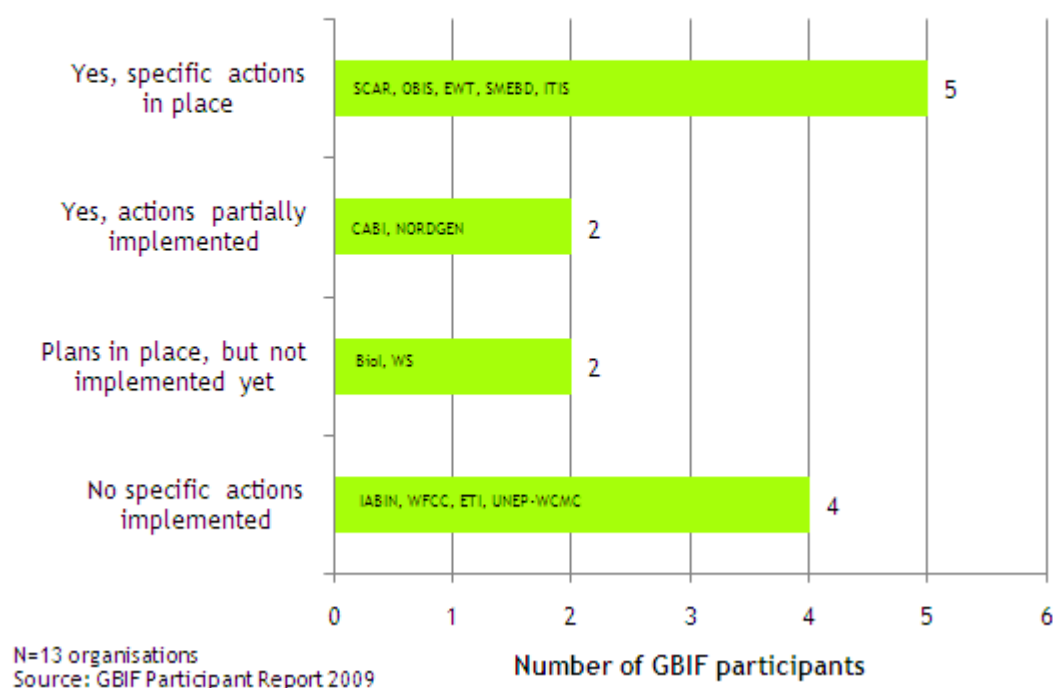
Figure 3-9 Actions taken by Organisation Participants to accelerate data mobilisation

Participants were asked to estimate the total amount of biodiversity data available within their countries and organisations (Table 3 and Table 5), as well as the numbers of records that they planned to mobilise and publish via GBIF by the end of 2010 (Table 4 and Table 6). The 22 Countries that responded to these questions estimated that a total of approximately 2.4 billion primary biodiversity data records were available within their countries, of which only 33% (approximately 800 million) were currently in digital form. They estimated they would be able to mobilise a total of approximately 134.0 million biodiversity data records by the end of 2010, with the majority of these being observation based occurrence records, followed by specimen based occurrence data.

Table 3 Country Participants' estimates of the total amounts of primary biodiversity data available

Please provide the best estimate of the total amount of primary biodiversity data currently available within your country.			
Record type	Total no. records	No. digital records	No. nondigital records
Specimen based occurrence data	1,392,186,463	99,542,463	1,292,644,000
Observation based occurrence records	863,916,645	524,216,645	339,700,000
Multimedia data linked to primary biodiversity data	2,190,000	690,000	1,500,000
Population / ecological monitoring records	70,003,750	70,003,750	0
Impact Assessment associated data records	30,000	30,000	0
Other types of primary biodiversity data	100,005,000	100,005,000	0
TOTAL	2,428,331,858	794,487,858	1,633,844,000

Table 4 Country Participants' data mobilisation estimates: N=7-22 countries

What are the estimates of numbers of records that the data holders within the the domain of your national node plan to mobilise and publish via the GBIF data portal (http://data.gbif.org) by end 2010?		
Record type	2009	2010
Specimen based occurrence data	11,167,563	18,565,962
Observation based occurrence records	40,141,645	105,130,000
Multimedia data linked to primary biodiversity data	81,700	277,100
Population / ecological monitoring records	55,000	4,422,000
Impact Assessment associated data records	0	50,000
Other types of primary biodiversity data	12,100	5,532,000
TOTAL	51,458,008	133,977,062

The five Organisation Participants that reported on data mobilisation estimated that approximately 25.1 million records were available within their organisations, of which 94% (approximately 23.7 million) were already in digital form. These organisations estimated they would mobilise a total of around 5.0 million records by the end of 2010, with most of these being observation based occurrence records.

Table 5 Organisation Participants' estimates of the total amounts of primary biodiversity data available

Please provide the best estimate of the total amount of primary biodiversity data currently available within your organisation as of 2009.			
Record type	Total no. records	No. digital records	No. nondigital records
Specimen based occurrence data	1,458,287	1,458,287	0
Observation based occurrence records	15,989,096	15,969,096	20,000
Multimedia data linked to primary biodiversity data	279,484	279,484	0
Population / ecological monitoring records	2,500	2,500	0
Impact Assessment associated data records	800	800	0
Other types of primary biodiversity data	7,384,513	5,957,708	0
TOTAL	25,114,680	23,667,875	20,000

Table 6 Organisation Participants' data mobilisation estimates: N=5 organisations

What are the estimates of numbers of records that the data holders within the the domain of your organisation plan to mobilise and publish via the GBIF data portal (http://data.gbif.org) by end 2010?		
Record type	2009	2010
Specimen based occurrence data	330,000	330,000
Observation based occurrence records	4,700,000	4,185,000
Multimedia data linked to primary biodiversity data	7,100	7,100
Population / ecological monitoring records	500	200
Impact Assessment associated data records	700	200
Other types of primary biodiversity data	475,610	475,720
TOTAL	5,513,910	4,998,220

3.3. Names Services (ECAT)

In 2009 GBIF continued work on improving the services delivered to the Participants for processing scientific names and creating and managing checklists.

Country Participants were asked to report whether their National Nodes were involved in the compilation, publication and use of names data, particularly in the form of checklists and taxonomic files (Figure 3-10). Half the Participants responded that they very actively promote and facilitate these activities, with an additional 42% either occasionally involved or planning to be involved in such activities. The remaining 8% reported that they were not involved and that this was not a priority for their National Node.

Does your National Node promote and facilitate the compilation, publication and use of names data, particularly in the form of checklists and taxonomic files?

Response	Countries	Number
Yes, very actively	AT, CA, CT, CO, CU, DK, FI, DE, IE, KE, MX, NZ, NO, SK, ZA, ES, CH, UK, US	19
Yes, but only occassionaly	AU, BE, BF, JP, PK, PH	6
No, but planned	AR, CM, CR, GN, IS, ID, KR, MG, PE, PL	10
No and this is not a priority for better management of biodiversity data within our National Node	FR, NL, SE	3

Number of GBIF participants

N=38 countries
Source: GBIF Participant Report 2009
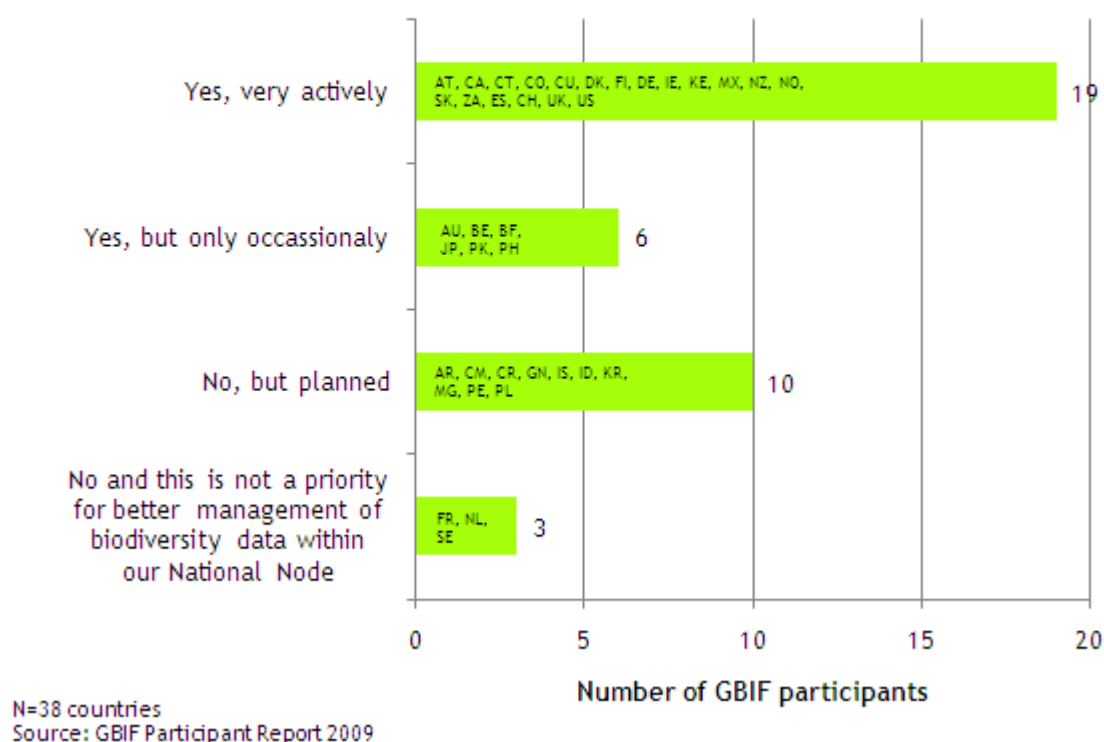
Figure 3-10 Use of names data and checklists by Country Participants

Country Participants were also asked to report on the format they used to serve checklist data. Of the 29 countries that reported, 21% used Taxon Concept Schema XML, 10% used DarwinCore text archive format, and the remaining 69% reported that they used other formats for serving checklist data.

4. Strategic Partnerships and Uptake

4.1. Participant use of GBIF 2009-2010 Work Programme

The GBIF 2009-2010 Work Programme is a joint venture between the GBIF Participants and the Secretariat. Participants were asked to report if the Work Programme had assisted them in setting priorities or in initiating activities. The majority of Country Participants (66%) reported that it had been helpful in this regard (Figure 4-1). Of the 23 Organisation Participants that provided reports, only 35% reported that the GBIF 2009-2010 Work Programme had assisted their organisation in setting some of their priorities and targets, and in initiating activities, with the majority (65%) reporting that it had not been useful in this regard.

Examples mentioned by Participants in their reports of how the GBIF Work Programme has assisted them included: inspiration from the 2 billion records target to scale their IT infrastructure, using the GBIF Work Programme as a guideline for developing national work plans, and the organisation of relevant workshops. Examples of activities initiated in response to the Work Programme included: participation in SEP-CEPDEC and mentoring, the development of data mobilisation strategies, deploying and testing the Integrated Publishing Toolkit, technology development, and diversifying the kinds of data used by GBIF.

Has the GBIF 2009-2010 Work Programme assisted you in setting priorities and/or initiating activities?

Yes — AR, AU, BE, BF, CM, CA, CT, CO, CR, CU, DK, FI, FR, GH, JP, KE, KR, MG, NL, PL, SK, ZA, SE, CH, US — 25

No — AT, DE, GN, IS, ID, IE, MX, NZ, NO, PK, PE, PH, UK — 13

Number of GBIF participants

N=38 countries
Source: GBIF Participant Report 2009
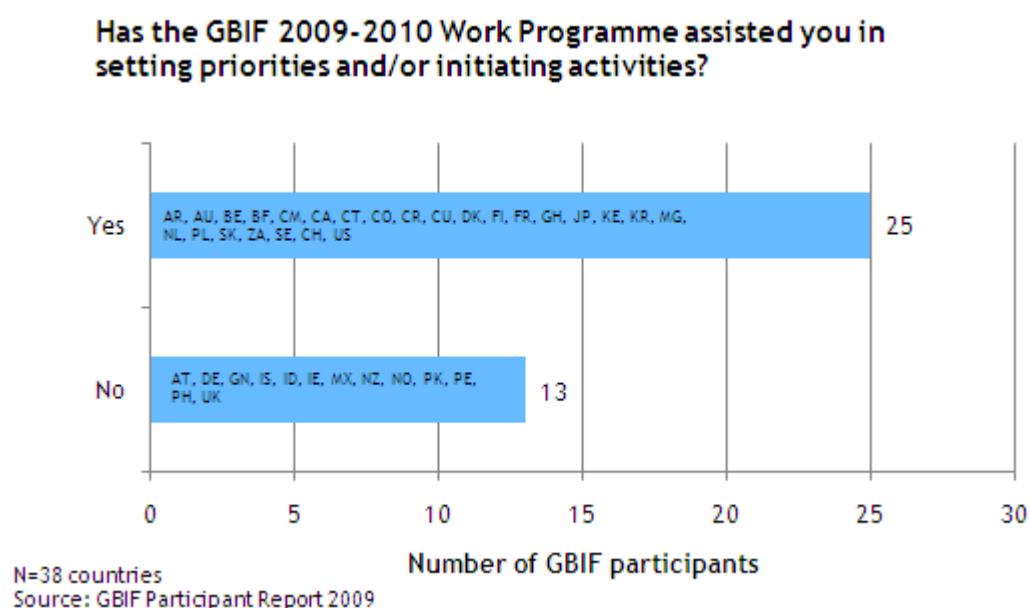
Figure 4-1 Use of GBIF Work Programme by Country Participants in priority setting

4.2. Implementation by Organisation Participants

GBIF has a growing number of Associate Organisation Participants in its network. These Participants were asked to report on the areas of GBIF's Work Programme to which they saw their organisation making its most significant or relevant contributions (Figure 4-2). The three areas of contribution most frequently selected overall were digitisation and mobilisation of biodiversity data (selected by 58%[7]), informatics (selected by 50%) and outreach activities (selected by 42%).

Please indicate the areas of the GBIF Work Programme to which you see your organisation making its most significant/relevant contributions

Area	Participants	Number
Digitalisation and mobilisation of biodiversity data	CABI, BioI, SCAR, EoL, CETAF, TDWG, OBIS, IABIN, ICIPE, EWT, WFCC, BioNET, ETI, ANDINONET	14
Informatics: tools / applications / standards	BioI, NORDGEN, EoL, TDWG, SPNHC, IABIN, WDCBE, ILTER, EWT, ETI, UNEP-WCMC, ANDINONET	12
Outreach activities	NORDGEN, SPNHC, IABIN, WDCBE, ICIPE, WFCC, BioNET, PBIF, WS, ANDINONET	10
Training Activities	NORDGEN, MARENA, IABIN, WDCBE, EWT, BioNET, PBIF, ETI, ANDINONET	9
Names/taxonomy/checklist/nomenclatures for the development of the electronic catalogue of names	CABI, SCAR, EoL, TDWG, WFCC, BioNET, SMEBD, ITIS, ANDINONET	9
Activities of relevance for the operation of Nodes	NORDGEN, OBIS, IABIN, BioNET, ETI, ANDINONET	6
Communication, media, campaigns or fundraising activities	SPNHC, IABIN, BioNET, SMEBD, WS	5

Number of GBIF participants (axis: 0, 5, 10, 15)

N=24 organisations
Source: GBIF Participant Report 2009

Figure 4-2 Areas of contribution to the GBIF Work Programme by Organisation Participants (Organisation Participants were able to select all the areas that applied)

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[7] Organisation Participants selected all the areas of the GBIF WP to which they saw their organisation making a significant contribution; percentages refer to the number of Organisation Participants that selected each area as one of their selections.

Organisation Participants also reported whether they had a current Memorandum of Cooperation (MoC) with GBIF. As outlined in the PRS, an MoC is different to the GBIF Memorandum of Understanding (MoU), signed by all GBIF Participants, and relates to a specific area of collaboration. Of the 23 Organisation Participants that reported, 39% currently had an MoC with GBIF, while the majority 61% did not currently have such an agreement. Organisation Participants were also asked to report if they would consider it beneficial to develop additional agreements (such as an MoC) with the GBIF Secretariat for some specific areas of collaboration. Of 15 Organisation Participants that answered, 40% (OBIS, IABIN, EWT, BioNET-INTERNATIONAL, SMEBD, ETI Bioinformatics) reported that they would consider it beneficial and 60% (Bioversity International, CETAF, TDWG, SPNHC, WDCBE, ICIPE, WFCC, ITIS, Wildscreen) reported that they would not.

GBIF's Organisation Participants reported on their data sharing activities with GBIF (Figure 4-3). 25% responded that they did not hold biodiversity data and were therefore not sharing data with GBIF. Of the remaining 18 Organisation Participants, 22% reported that they are holders of biodiversity data but are not currently sharing data with GBIF.

Please classify your organisation with respect to sharing/publishing data via GBIF

Currently sharing data via GBIF — CABI, Biol, SCAR, NORDGEN, OBIS, IABIN, EWT, WFCC, BioNET, SMEBD, ETI, ITIS, UNEP-WCMC, WS — 14

Not currently sharing data, but is holder of data — ILTER, ICIPE, PBIF, ANDINONET — 4

The organisation doesn't hold biodiversity data — EoL, CETAF, TDWG, SPNHC, MARENA, WDCBE — 6

Number of GBIF participants

N=24 organisations
Source: GBIF Participant Report 2009

Figure 4-3 Data sharing by GBIF's Organisation Participants

Organisation Participants reported how they presented GBIF on their websites (Figure 4-4). 22% reported that GBIF was mentioned on their homepage with a separate information page on

GBIF, and an additional 56% reported that GBIF was mentioned on their website. The remaining 19% reported that GBIF was not mentioned anywhere on their website.

Please select the option that best describes how GBIF is presented on your website

N=27 organisations
Source: GBIF Participant Report 2009
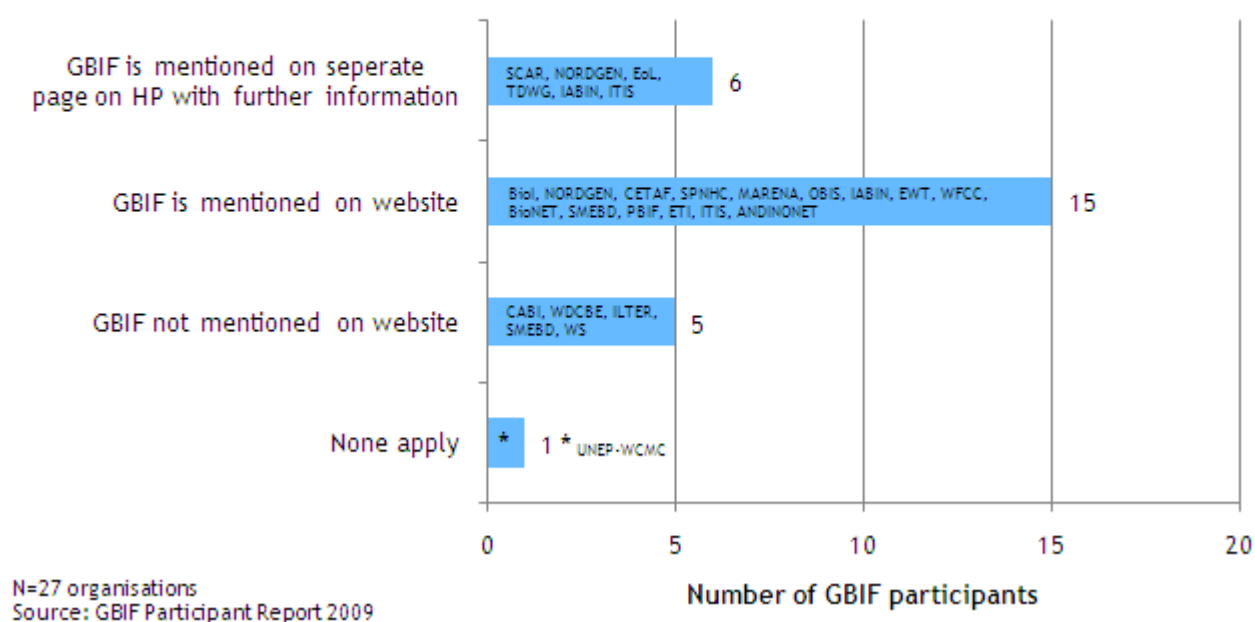
Figure 4-4 How Organisation Participants represent GBIF on their websites

4.3. Usefulness of GBIF to its Participants

To help guide the implementation of the GBIF Work Programme, GBIF Participants were also asked to report on the usefulness of GBIF's services and tools. Figure 4-5 shows the responses from Country Participants that ranked the GBIF Data Portal (59%[8]), the Informatics Infrastructure provided by GBIF (53%), and guidance and assistance from Secretariat staff (50%) as the top three 'very useful' services overall. The three services that were least used (most frequently ranked 'not needed or used so far') by countries were support from members of the Science Committee (59%[9]), CEPDEC (58%), and GBIF Secretariat country visits (46%).

Figure 4-6 shows the reports from Organisation Participants that ranked GBIF meetings (59%[10]), the Informatics Infrastructure provided by GBIF (45%), and the GBIF Data Portal (39%) as the top three 'very useful' services overall. For Organisation Participants, the least used services (those most frequently ranked 'not needed or used so far') were GBIF Secretariat visits, GBIF Secretariat letters of support (38%[11]), and communication and PR materials produced by the GBIF Secretariat (33%).

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[8] Percentages refer to the Country Participants that ranked a particular service 'very useful'. Note that N varies for each service as some Country Participants did not rank all the services.
[9] Percentages refer to the Country Participants that ranked a particular service 'not needed or used so far'. Note that N varies for each service as some Country Participants did not rank all the services.
[10] Percentages refer to the Organisation Participants that ranked a particular service 'very useful'. Note that N varies for each service as some Organisation Participants did not rank all the services.
[11] Percentages refer to the Organisation Participants that ranked a particular service 'not needed or used so far'. Note that N varies for each service as some Organisation Participants did not rank all the services

How useful do you find GBIF services or support activities?

Legend: Very useful · Useful, although only occasionally used · Not useful when used · Not needed or used so far

Service or support activity	Very useful	Useful, although only occasionally used	Not useful when used	Not needed or used so far
GBIF Data Portal (data.gbif.org)	22	13	0	2
Informatics Infrastructure provided by GBIF	19	14	0	3
Guidance and assistance from the GBIF Secretariat Staff	19	14	1	4
GBIF meetings (regional, global)	18	18	0	1
GBIF Communications Portal (gbif.org)	16	19	1	2
GBIF technical recommendations, documents and guidelines	16	16	3	2
Exchange of experience and know-how with other Participant Nodes at GBIF meetings	13	20	0	4
GBIF training and workshops	12	17	0	8
GBIF Secretariat letters of support	12	10	1	15
Collaboration with other Nodes	11	19	0	6
Support from the Nodes Comittee Chair and Vice Chairs	9	14	1	11
CEPDEC	9	5	1	21
Communication and PR materials produced by GBIF Secretariat	8	21	2	6
GBIF Secretariat country visits	8	11	0	16
GBIF Task Groups	7	15	0	11
GBIF surveys and assessments	7	15	3	8
Support from members of the Science Committee	3	8	3	20

Number of Participants

N=33-38 countries
Source: GBIF Participant Report 2009

Figure 4-5 Usefulness of GBIF services and support activities to Country Participants

How useful for your Organisation are GBIF services or support activities?

Legend: Very useful ■ | Useful, although only occasionally used ■ | Not useful when used ■ | Not needed or used so far ■

Service/Activity	Very useful	Useful, although only occasionally used	Not useful when used	Not needed or used so far
GBIF meetings (regional, global)	13	9		0
Informatics infrastructure provided by GBIF	10	7	1	4
GBIF Data Portal (data.gbif.org)	9	12	1	1
GBIF technical recommendations, documents and guidelines	8	12	0	2
Exchange of experience and know-how with other Participant Nodes at GBIF meeting	7	11	0	3
Guidance and assistance from the GBIF Secretariat Staff	6	11	0	3
Collaboration with other Nodes	6	9	0	6
GBIF Task Groups	5	13	0	4
GBIF trainings and workshops	5	11	0	4
GBIF Secretariat visits	5	4	1	10
GBIF Secretariat letters of support	4	9	0	8
GBIF surveys and assessment	3	13	0	5
Communication and PR materials produced by GBIF Secretariat	3	11	0	7
GBIF Communications Portal (www.gbif.org)	2	13	0	6

Number of Participants

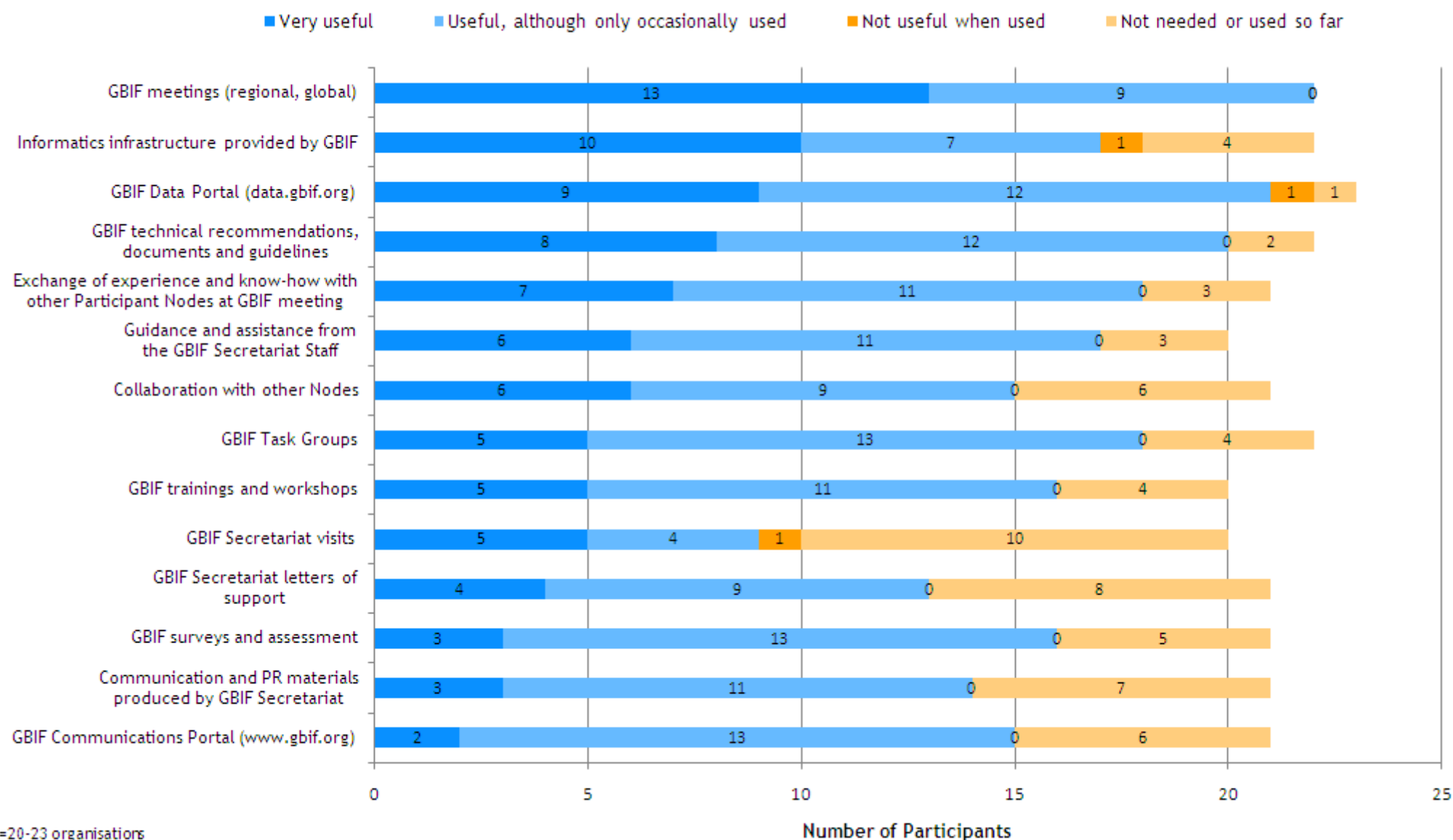N=20-23 organisations
Source: GBIF Participant Report 2009

Figure 4-6 Usefulness of GBIF services and support activities to Organisation Participants

5. Participant Reporting System

As 2009 was the first year in which GBIF Participants reported on their activities using the Participant Reporting System, Participants were asked to comment on their impressions of the system (Figure 5-1). The majority of respondents found the system useful on some level, with 38% reporting that they found it very useful and relevant, 39% reporting that they found some sections useful, and 20% finding it useful for an overall assessment of GBIF but of little relevance at the Participant level. Only 3% of Participants did not find the system useful at all.

One of the objectives of this reporting system is to help GBIF Participants assess their own progress in the implementation of the GBIF Work Programme, particularly with regards to the Participant-level activities and priorities. In this context, how would you qualify this report in terms of usefulness and service?

N=61 respondents
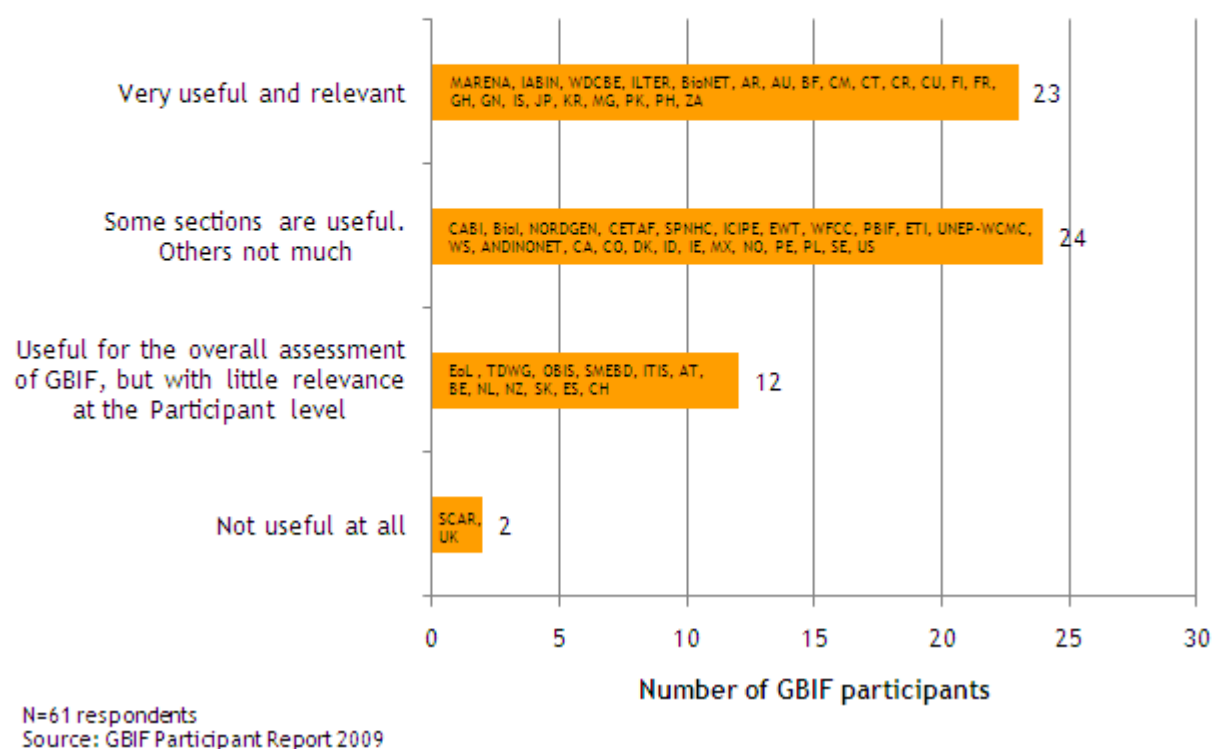Source: GBIF Participant Report 2009

Figure 5-1 Usefulness of the GBIF Participant Reporting System

Participants provided additional comments on how to improve the Participant Reporting System in future, which GBIF will try to address in the Participant Reporting process in 2010.

Conclusions

National Nodes

The majority of GBIF's National Nodes have been established in response to national needs, often beyond the scope of the GBIF Work Programme. As a result, many National Nodes are providing a wide range of services to their communities. Areas which were well covered by National Nodes included: national level coordination and promotion, technical support and guidance to data holders and publishers, activities to raise the visibility of the National Node, and engagement of new data holder institutions and partners. In addition, over half (56%) of the National Nodes reported that they have implemented their own data portals giving access to biodiversity data, and often or occasionally respond to information requests from ministries, national institutions and other external organisations. However, many National Nodes reported barriers to their development, with the top three being insufficient funds, insufficient staff and unclear benefits of data sharing. Less than half of the Country Participants were able to report with certainty that their National Nodes would be maintained in 2010, highlighting the work to be done in increasing the sustainability of GBIF's network of National Biodiversity Information Facilities (BIFs). Across the reports provided by Country Participants, correlations were found between the formal establishment of the National Nodes and the availability of a budget, their sustainability and their ability to respond to information requests from ministries and other institutions. This highlights the importance of a formal level of endorsement for National Nodes in securing adequate support for them to function as sustainable National BIFs.

Training

A need for training was identified as a priority by GBIF Participants in several sections of this report. Less than half of GBIF's Participants were involved in organising or hosting training events in 2009. However, it is estimated that the 20 countries that were engaged in organising GBIF training events between October 2008 and September 2009 trained up to 1259 people. As GBIF encourages a train-the-trainers approach, these training events have had an even larger impact than has been estimated here. Some GBIF Participants were also active in creating or adapting training materials on a broad range of GBIF-related topics that will be of use in sharing and enhancing capacity across the network.

Outreach

Of those GBIF Participants providing reports in 2009, 37% of Country Participants and 17% of Organisation Participants were actively involved in outreach activities to recruit new GBIF Participants. This type of engagement is critical to enabling GBIF to achieve its vision that "by the end of 2010 GBIF is a … global network with a balanced geographic membership across all

regions" (GBIF WP 2009-2010). All Participants are encouraged to actively participate in outreach about GBIF in 2010 and beyond.

Integrated Publishing Toolkit

Country Participants identified 'Tools for publishing data via GBIF' in their top three informatics priorities. A first version of the Integrated Publishing Toolkit (IPT) was released in 2009 and the majority (83%) of Country Participants reported interest in the tool, having installed it for testing purposes, tried to install it, or planned to install it in the near future. However, of those Country Participants reporting that they had installed the IPT, most (55%) reported that it was still missing some key features or functionalities. The GBIF Secretariat will convene ongoing discussions with the Nodes Committee and other user communities (such as institutional users) to shape the future developments of the IPT according to user needs.

GBIF Data Portal

Most Country Participants (86%) reported that the GBIF Data Portal met the needs of their user communities either fully or partially. However, the largest group (58%) reported that the GBIF Data Portal only partially met these needs, highlighting the need for ongoing development of the Data Portal. A similar trend was seen in reports provided by Organisation Participants, of which 57% reported that the Data Portal only partially met the needs of their organisation. In 2010, the GBIF Secretariat will focus developments on the integration of names data and metadata into the GBIF Data Portal. Improvement of the Data Portal has been identified as a priority activity in the draft 2011 GBIF Work Programme, based on ongoing discussion between the Secretariat and Participants to guide developments in 2011 and beyond.

Discovery and Metadata

In 2009 only 15 Country Participants (39%) reported that they already had national-level metadata catalogues for biodiversity data resources, and only 4 Country Participants (11%) reported that national policies on biodiversity metadata were already in place. However, an additional 16 countries (41%) were planning to implement national level metadata catalogues. 11 countries (30%) reported that they had metadata policies at the National Node level, and 12 countries (32%) were in discussions towards adopting such a policy. Thus, while some Country Participants are well advanced in the development of a framework for metadata, there is a need for wider uptake to meet the expected outcomes agreed for the Work Programme.

Digitisation and Mobilisation

Discussions with GBIF Participants in 2009 identified that most required a more systematic Content Needs Assessment in order to develop data discovery and mobilisation strategies[12]. While only 15% of Country Participants reported that they had carried out systematic assessments of the biodiversity data and information needs of the main stakeholders within

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[12] Source: GBIF Annual Report 2009, p.39

their countries, the majority were in various stages of planning and implementing such assessments. Similarly, 23% of Country Participants reported that a national strategy for the discovery and mobilisation of biodiversity data was in place, but most Country Participants were working towards implementing this type of strategy. The GBIF 2009-2010 Work Programme calls for a rapid increase in the rate of data discovery and mobilisation by Participants. In 2009 only 24% of Country Participants and 39% of Organisation Participants reported that they had put in place specific actions to accelerate data mobilisation towards the 2 billion records target. The total number of records accessible through the GBIF network grew by 20% in 2009, following a general trend of linear growth with an annual increase of approximately 33 million records[13]. The majority of Participants reported that GBIF's current Intellectual Property Rights framework was adequate to address concerns from their communities (or with only minor issues still to be addressed) suggesting that this is not a major barrier to data publishing. These 2009 reports therefore highlight the general need for strategic planning towards accelerated data mobilisation by GBIF Participants in 2010.

Names Services

Most Country Participants reported that they are either very actively or occasionally involved in the compilation, publication and use of names data, particularly in the form of checklists and taxonomic files. In 2010 the GBIF Secretariat will continue to improve the services delivered to Participants for processing scientific names, and intends to host a workshop on how the GBIF Names Services can facilitate the creation and management of checklists.

Participant Use of the GBIF 2009-2010 Work Programme

Most Country Participants (66%) reported that the GBIF Work Programme had been useful in setting priorities and/or initiating activities, guiding the development of national work plans for example. For Organisation Participants, only 35% reported that the Work Programme had been useful in this regard.

Implementation by Organisation Participants

Of the growing number of Organisation Participants in GBIF, only 39% reported that they had a Memorandum of Cooperation (MoC) for specific areas of joint work with the GBIF Secretariat, with 40% indicating that they would consider such an agreement beneficial. The top three areas in which Organisation Participants reported their organisations making a contribution to the GBIF Work Programme were digitisation and mobilisation of biodiversity data, informatics and outreach activities. These reports call for more formalised collaborative agreements to be developed with some Organisation Participants and highlight again the need to further investigate alternative relationships to the Associate Participant role with relevant organisations in the future.

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[13] Source: GBIF Annual Report 2009, p.33

Usefulness of GBIF to its Participants

Country Participants and Organisation Participants highlighted rather similar GBIF services as the most useful: the GBIF Data Portal, Informatics infrastructure provided by GBIF, and GBIF meetings all featured very highly in both rankings. Further analysis of some of the services reported to be less useful to GBIF Participants could indicate that the Secretariat should curtail these activities and concentrate capacity on the more used services.

Participant Reporting System

The Participant Reporting System was launched by the GBIF Secretariat to facilitate the submission of annual progress reports by Participants to show progress towards the targets in the 2009-2010 Work Programme. Most Participants reported that they found the system useful on some level, with only 3% reporting that they did not find the system useful at all. However, only 76% of the total number of Country Participants and 59% of Organisation Participants submitted reports in 2009. The feedback given by Participants will be used to improve the Participant Reporting System in 2010, and it is hoped that a greater number of Participants will submit reports to render the process more useful for GBIF as a whole.

Annex 1: List of GBIF Participants submitting 2009 reports

Submitted Report	
Country or Economy	Organisations
ARGENTINA (VP)	AndinoNet
AUSTRALIA (VP)	BioNET-INTERNATIONAL
AUSTRIA (AP)	Bioversity International
BELGIUM (VP)	CABI Bioscience
BURKINA FASO (AP)	Consortium of European Taxonomic Facilities
CAMEROON (AP)	Encyclopedia of Life
CANADA (VP)	ETI Bioinformatics
CHINESE TAIPEI (AP)	Endangered Wildlife Trust
COLOMBIA (AP)	Inter-American Biodiversity Information Network
COSTA RICA (VP)	International Centre for Insect Physiology and Ecology
CUBA (AP)	International Long Term Ecological Research
DENMARK (VP)	Integrated Taxonomic Information System
FINLAND (VP)	MORENA
FRANCE (VP)	NORDGEN
GERMANY (VP)	Ocean Biogeographic Information System
GHANA (AP)	Pacific Biodiversity Information Forum
GUINEA (AP)	Scientific Committee on Antarctic Research
ICELAND (VP)	Society for the Management of Electronic Biodiversity Data
INDONESIA (AP)	Society for the Preservation of Natural History Collections
IRELAND (VP)	Taxonomic Databases Working Group
JAPAN (VP)	United Nations Environment Programme - WCMC
KENYA (AP)	World Data Center for Biodiversity and Ecology
KOREA. REPUBLIC OF (VP)	World Federation for Culture Collections
MADAGASCAR (AP)	Wildscreen
MEXICO (VP)	
NETHERLANDS (VP)	
NEW ZEALAND (VP)	
NORWAY (VP)	
PAKISTAN (AP)	
PERU (VP)	
PHILIPPINES (AP)	
POLAND (AP)	
SLOVAKIA (VP)	
SOUTH AFRICA (VP)	
SPAIN (VP)	
SWEDEN (VP)	
SWITZERLAND (AP)	
UNITED KINGDOM (VP)	
UNITED STATES (VP)	

Annex 2: List of GBIF Participants not submitting 2009 reports

No report submitted	
Country or Economy	**Organisations**
Benin (AP)	ASEAN Centre for Biodiversity*
Bulgaria (AP)	BioNET-ASEANET
Chile (VP)*	BioNET-EASIANET
Equatorial Guinea (VP)	BioNET-SAFRINET
Estonia (VP)	Botanic Gardens Conservation International
India (AP)	Ciencia y Tecnología para el Desarrollo
Mauritania (VP)*	Consortium for the Barcode of Life
Morocco (AP)	Discover Life
Nicaragua (AP)	DIVERSITAS
Portugal (VP)	Finding Species
Slovenia (VP)	Freshwater Biological Association - FreshwaterLife
Tanzania (VP)	International Centre for Integrated Mountain Development*
Togo (AP)*	International Commission on Zoological Nomenclature
Uganda (AP)*	International Species Information System
Uruguay (VP)*	Major Systematic Entomology Facilities
	Natural Science Collections Alliance
	NatureServe
	Secrétariat Intérimaire du Volet Environnement du NEPAD*
	Species 2000
* joined GBIF in 2009; no report required	

Annex 3: Complete list of Questions in the 2009 Participant Reporting System

Questions to Countries/Economies – Head of Delegation

- Has your National Node been formally established (for example by legal or institutional mandate)?

- How would you classify the level of development of your National Node?

- Please select the option that best describes the presence of your National Node on the Internet

- If your National Node is accessible online, does it have a portal that provides access to biodiversity data?

- Does your National Node produce an annual report?

- Does your National Node have an annual Work Plan (indicating activities, timelines, deliverables, budget, etc.)?

- Has the GBIF 2009-2010 Work Programme assisted you in setting priorities and/or initiating activities?

- How many staff currently work in your National Node (i.e., the Node manager and their team, both in kind and fixed positions)?

- Does your National Node have a budget for its operations?

- What is your National Node's total budget for 2009 in Euros?

- How do you assess the sustainability of your National Node beyond 2009?

- From the options below, please select the 3 most significant barriers (if any) to the consolidation, expansion or further development of your National Node.

- Has your National Node been involved in training, mentoring or any other international collaborative activities related to GBIF between October 2008 and September 2009?

- Have you invited other GBIF participants or non-GBIF members to your biodiversity informatics training activities between October 2008 and September 2009?

- Have you as a GBIF Participant (including your National Node) been involved in activities to help recruit new GBIF Voting or Associate Participants?

- Has your National Node initiated or contributed to projects using GBIF mediated data?

- Does your National Node receive information requests from ministries, national institutions, external organisations, etc.?

- Have you carried out an assessment of the biodiversity data and information needs of the main stakeholders within your country?

- Does your National Node have a national-level strategy for the discovery and mobilisation of biodiversity data in place?

- Have you taken any specific actions since October 2008 to accelerate the mobilisation of primary biodiversity records towards the 2 billion records target (i.e. actions to go beyond the linear increase)?

- What are the estimates of number of records that the data holders within the domain of your National Node plan to mobilise and publish via the GBIF data portal (http://data.gbif.org) by end 2010?

- Does the GBIF Intellectual Property Rights (IPR) framework sufficiently address the needs and concerns from your community of data holders and authorities with respect to publishing data on the Internet, or are there still issues to be addressed?

- Does the GBIF Data Portal serve the needs of your user community?

- How useful do you find GBIF services or support activities?

Questions to Countries/Economies – Node Manager

- Does your National Node have a contact list (or lists) to maintain communications with the data holder institutions and other relevant partners within your country?

- Could you please provide an ESTIMATE of: the number of institutions included in the contact list (or lists) the number of people included in the contact list (or lists)

- How well were the following work areas covered by your National Node during the 2008-2009 period?

- Has your National Node created or adapted digital training materials on GBIF-related topics?

- How many biodiversity informatics training events did your National Node organise during the October 2008 – September 2009 period?

- How many people have been trained via your GBIF-related training activities (for the 08-09 period)?

- Does your National Node have a metadata catalogue for the biodiversity datasets and information resources within your country?

- Is there a policy in place regarding the provision of metadata for biodiversity datasets?

- How many data holding institutions are currently directly involved in or collaborating with your National Node?

- Please provide the best estimate of the TOTAL amount of primary biodiversity data currently available within your country?

- Does your National Node promote and facilitate the compilation, publication and use of names data, particularly in the form of checklists or taxonomic files?

- What format do you use to serve checklist data?

- Do these formats meet your needs and those of your constituent data providers?

- Have you installed and used the GBIF Integrated Publishing Toolkit (IPT)?

- Does the IPT suit your needs and fulfill your expectations?

- Please select the 3 top priorities or needs of your National Node with regards to informatics infrastructure using the categories indicated below.

Questions to organisations

- Does your organisation have an overall vision/mission statement?

- How does your vision/mission statement relate to GBIF?

- Please indicate the areas of the GBIF Work Programme to which you see your organisation making its most significant/relevant contributions.

- Do you have a current Memorandum of Collaboration (MoC) with GBIF?

- Would you consider it beneficial to develop additional agreements (such as an MoC) with the GBIF secretariat for some specific areas of collaboration?

- Please select the option that best describes how GBIF is presented on your website.

- Has the GBIF 2009-2010 Work Programme assisted your organisation in setting some of your priorities and targets, and initiating activities?

- Has your Organisation been involved in training, mentoring or any other international collaborative activities related to GBIF between October 2008 and September 2009?

- Have you invited other GBIF participants or non-GBIF members to your biodiversity informatics training activities or events between October 2008 and September 2009?

- Has your Organisation been involved in activities to help recruit new GBIF voting or associate participants?

- Has your Organisation initiated or contributed to the development of projects using GBIF mediated data?

- Does the GBIF Data Portal serve the needs of your Organisation?

- How useful for your Organisation are GBIF services or support activities?

- Please classify your organisation with respect to sharing/publishing data via GBIF.

- Have you taken any specific actions since October 2008 to accelerate the mobilisation of primary biodiversity records towards the 2 billion records target (i.e. actions to go beyond the linear increase)?

- What are the estimates of number of records that the data holders within the domain of your organisation plan to mobilise and publish via the GBIF data portal (http://data.gbif.org) by end 2010?

- Does the GBIF Intellectual Property Rights (IPR) framework sufficiently address the needs and concerns from your community of data holders and authorities with respect to publishing data on the Internet, or are there still issues to be addressed?

- Please provide the best estimate of the TOTAL amount of primary biodiversity data available within your organisation as of 2009?

- Please specify why you are not sharing data with GBIF at the moment?

- Have you raised this issue with the Secretariat?

- If you consider it possible during 2009/2010 to overcome the obstacles to publishing data via the GBIF Data Portal please specify the type of data and the amount of data available and digitized.

General questions

- One of the objectives of this reporting system is to help GBIF Participants assess their own progress in the implementation of the GBIF Work Programme, particularly with regards to the Participant-level activities and priorities. In this context, how would you qualify this report in terms of usefulness and relevance?

- Were the report instructions, questions, and choices clear?

- Was the report too long or time consuming?

- Please provide any additional comments or suggestions to improve this reporting system or to complement your answers.

Annex 4: Overview of the situation of National Nodes by Region

Country	Formally established	Staff working in Node — Full-time staff	Part-time staff	Contractors, etc.	Budget for operations — Yes	No specific budget allocated	A National Node has not been established	Does Node receive information requests — Yes, very often	Yes, but only occasionally	No	occurrence records absolute change	georeferenced occurrence records absolute change	occurrence records relative change	georeferenced occurrence records relative change
Africa														
BURKINA FASO	•	4	1			•		•			-	-	No values	No values
CAMEROON			1	2	•					•	-	-	No values	No values
GHANA	•	0	3			•				•	-	-	No values	No values
GUINEA			5				•			•	-	-	No values	No values
INDONESIA	•	12				•			•		-	-	No values	No values
KENYA	•	2	0	0			•	•			-	-	No values	No values
MADAGASCAR			2							•	-	-	No values	No values
SOUTH AFRICA	•	2			•						22,715	18,388	1.0%	0.9%
Summary (Africa)	62.5%	2.5	1.5	0.25	25.0%	37.5%	25.0%	25.0%	12.5%	50.0%	2,839	2,299	1.0%	0.9%
Asia														
CHINESE TAIPEI	•	3	2	2	•				•		179,981	160,574	61.5%	80.7%
JAPAN	•	2	4	12	•					•	165,958	314,614	11.8%	615.9%
KOREA, REPUBLIC OF	•	1	1	3	•			•			(8,750)	-	-0.8%	0.0%
PAKISTAN	•	4				•			•		-	-	0.0%	0.0%
PHILIPPINES		0	1	0			•			•	-	-	No values	No values
Summary (Asia)	80.0%	1.2	2.4	3.4	60.0%	20.0%	20.0%	20.0%	40.0%	40.0%	67,438	95,038	18.1%	174.2%
Europe														
AUSTRIA	•		3	10	•					•	107,469	96,532	4.0%	3.8%
BELGIUM	•	1	4		•			•			5,609	5,823	1.1%	1.8%
DENMARK	•	2	2	7	•				•		1,635,191	1,621,592	45.2%	47.2%
FINLAND	•	1			•				•		1,208,092	1,113,136	216.2%	286.5%
FRANCE	•	3	2		•				•		359,955	236,245	3.4%	2.4%
GERMANY		0	0	0		•			•		357,025	76,767	5.3%	1.4%
ICELAND			2			•				•	-	-	0.0%	0.0%
IRELAND	•	7	1	3	•				•		-	-	No values	No values
NETHERLANDS	•	0	1	0	•					•	129,170	4,545	2.3%	0.1%
NORWAY	•	3	4		•				•		146,581	142,007	4.2%	4.3%
POLAND	•	1	2		•					•	464,896	394,877	38.7%	41.2%
SLOVAKIA		0	0	0		•				•	292	-	Inital values	No values
SPAIN	•	9		5	•				•		1,319,662	1,085,835	44.8%	72.2%
SWEDEN	•	1	2	0	•					•	6,049,042	5,009,413	33.8%	31.9%
SWITZERLAND	•	0	3	1	•			•			60,940	-	12.6%	0.0%
UNITED KINGDOM	•	8	3	3	•			•			452,304	79,756	2.7%	0.5%
Summary (Europe)	81.3%	2.3	1.8	1.8	81.3%	18.8%	0.0%	18.8%	43.8%	37.5%	768,514	616,658	29.6%	35.2%
Latin America														
ARGENTINA	•					•		•			87,281	30,568	119.4%	Inital values
COLOMBIA	•	4		3	•			•			74,911	17,001	51.8%	33.0%
COSTA RICA	•		3			•		•			-	-	0.0%	0.0%
CUBA	•		3	3	•					•	-	-	No values	No values
MEXICO	•	4				•		•			124,766	81,006	12.6%	10.9%
PERU	•	11		6		•		•			-	-	No values	No values
Summary (Latin America)	100.0%	3.2	1.0	2.0	33.3%	66.7%	0.0%	83.3%	0.0%	16.7%	47,826	21,429	36.7%	14.6%
North America														
CANADA	•	1	1	1	•			•			108,119	104,197	7.0%	8.1%
UNITED STATES		0	1	1		•				•	10,686,412	7,421,161	16.7%	14.7%
Summary (North America)	50.0%	0.5	1.0	1.0	50.0%	50.0%	0.0%	50.0%	0.0%	50.0%	5,397,266	3,762,679	11.9%	11.4%
Oceania														
AUSTRALIA	•	6	0	6	•			•			552,818	543,482	16.5%	17.3%
NEW ZEALAND		0	0	0			•			•	47,714	61,106	3.3%	6.9%
Summary (Oceania)	50.0%	3.0	0.0	3.0	50.0%	0.0%	50.0%	50.0%	0.0%	50.0%	300,266	302,294	9.9%	12.1%
Summary (TOTAL)	76.9%	2.3	1.6	1.7	56.4%	30.8%	10.3%	33.3%	25.6%	38.5%	624,055	477,401	25.5%	49.3%

N=39 countries

Annex 5: Overview of data records in the GBIF data index by Participant

Participant Node records as represented in the GBIF Data Index						
Participant	occurrence records 12/2009	georeferenced occurrence records 12/2009	change occurrence records	change georeferenced occurrence records	% change occurrence records	% change georeferenced occurrence records
Argentina	160,389	30,568	87,281	30,568	119.4%	Inital values
Australia	3,903,096	3,689,572	552,818	543,482	16.5%	17.3%
Austria	2,823,370	2,649,362	107,469	96,532	4.0%	3.8%
Belgium	500,181	328,416	5,609	5,823	1.1%	1.8%
BioNET-ASEANET	13,477	5,147	-	-	0.0%	0.0%
BioNET-EASIANET	1,901	1,899	-	-	0.0%	0.0%
Bioversity International	1,575,696	271,484	(204,712)	(9,158)	-11.5%	-3.3%
CABI Bioscience	215,478	-	25,183	-	13.2%	No values
Canada	1,643,758	1,383,046	108,119	104,197	7.0%	8.1%
Chinese Taipei	472,853	359,512	179,981	160,574	61.5%	80.7%
Colombia	219,604	68,519	74,911	17,001	51.8%	33.0%
Consortium of European Taxonomic Facilities	101,661	-	-	-	0.0%	No values
Costa Rica	2,842,111	2,763,051	-	-	0.0%	0.0%
Denmark	5,254,621	5,054,537	1,635,191	1,621,592	45.2%	47.2%
Estonia	51,255	33,530	1,657	7,406	3.3%	28.3%
EU - BioCASE	464,917	430,857	-	-	0.0%	0.0%
European Commission	1,835,629	353,859	-	-	0.0%	0.0%
Finland	1,766,914	1,501,679	1,208,092	1,113,136	216.2%	286.5%
France	10,989,160	9,966,315	359,955	236,245	3.4%	2.4%
Germany	7,040,628	5,491,980	357,025	76,767	5.3%	1.4%
Iceland	458,396	438,210	-	-	0.0%	0.0%
Inter-American Biodiversity Information Network	192,533	159,283	259	54	0.1%	0.0%
International Centre for Insect Physiology and Ecology	775	377	397	377	105.0%	Inital values
Japan	1,575,459	365,694	165,958	314,614	11.8%	615.9%
Korea, Republic of	1,055,162	47,585	(8,750)	-	-0.8%	0.0%
Luxembourg	395,749	377,916	395,749	377,916	Inital values	Inital values
Mexico	1,118,276	822,419	124,766	81,006	12.6%	10.9%
NatureServe	759,536	-	93,545	-	14.0%	No Values
Netherlands	5,667,776	4,612,860	129,170	4,545	2.3%	0.1%
New Zealand	1,508,826	946,456	47,714	61,106	3.3%	6.9%
Nicaragua	-	-	-	-	No values	No values
Nordic Gene Bank	33,902	4,116	(31,063)	(3,858)	-47.8%	-48.4%
Norway	3,636,438	3,450,303	146,581	142,007	4.2%	4.3%
Ocean Biogeographic Information System	12,187,248	11,715,646	90,383	58,229	0.7%	0.5%
Pacific Biodiversity Information Forum	2,259	2,186	2,259	2,186	Initial values	Initial values
Pakistan	853	175	-	-	0.0%	0.0%
Peru	40,078	-	-	-	0.0%	No values
Poland	1,667,093	1,353,940	464,896	394,877	38.7%	41.2%
Portugal	29,817	-	1,578	-	5.6%	No values
Scientific Committee on Antartic Research (SCAR)	99,442	99,435	-	-	0.0%	0.0%
Slovakia	292	-	292	-	Inital values	No values
Slovenia	265,930	140,429	4	4	0.0%	0.0%
Society for the Management of Electronic Biodiversity	290	290	290	290	Inital values	Inital values
South Africa	2,193,602	2,175,895	22,715	18,388	1.0%	0.9%
Spain	4,262,924	2,589,097	1,319,662	1,085,835	44.8%	72.2%
Sweden	23,927,582	20,723,594	6,049,042	5,009,413	33.8%	31.9%
Switzerland	546,039	398,815	60,940	-	12.6%	0.0%
Tanzania	3,611	3,391	3,539	3,319	4915.3%	4609.7%
UK	17,505,321	16,987,163	452,304	79,756	2.7%	0.5%
USA	74,800,046	57,933,318	10,686,412	7,421,161	16.7%	14.7%
World Federation for Culture Collections	44,980	-	462	-	1.0%	No values

Source: Rollover statistics 2/2009 and 12/2009

Annex 6: Key outputs to be delivered by GBIF Participants by end of 2010

Table 7 Summarised key outputs to be delivered by GBIF Participants by end 2010 (from the GBIF Work Programme 2009-2010 pp8 – 9)

Participation		
Nodes	Participants	• Mobilise the technical capacity and funds to establish functional Nodes[†] to fully engage data publishers[†] and address end-user needs within their domain • Full participation in the Nodes Committee[†] and through this contribute to implementation of the WP • Contribute content to the Online Resource Centre[†] • As regional partners, provide technical support and guidance to other Nodes • Actively collaborate with other Nodes, especially via formal mentoring plans
Training	Participants	• Develop and share customised training modules for inclusion in the e-learning[†] classrooms • Submit training activities information to the Online Resource Centre[†] for Training • Participants and regional partners mobilise additional resources for meeting national or regional training needs
Outreach	Participants	• Active participation in the Outreach Task Group to mobilise new Participants (countries, organizations, etc.) • Associate Participants move to Voting Participation • Provision of relevant information on IPR[†] and citation issues for the online database
Communi-cations, Media & Fund-raising	Participants	• Contribute to and use promotional materials on GBIF to raise funds for national needs and interaction with national stakeholders • Use materials to promote GBIF to the widest possible audience
Strategic Applications & Campaigns	Participants	• Initiate projects in strategically relevant areas using GBIF mediated data[†] • Participate in and successfully roll-out existing Campaigns • If a call is made in 2010, propose new Campaigns with Participant leadership and funding
Informatics		•
IDA	Participants	• Install, populate and maintain a metadata[†] management system • Promote the use of and provide high quality/complete metadata[†] for all datasets under their ownership and /or custodianship

DIGIT	Participants	• Rapidly increase investments in and rate of data discovery and mobilisation • Mobilise metadata[†] covering up to 5bn records for the GBRDS[†] and up to 2bn primary records through the IPT[†] • Contribute to a Content Needs Assessment study and development of consequent strategies and action plans • Actively work on improving 'fitness for use' of primary biodiversity data[†] for multiple users
ECAT	Participants	• Refine and adopt standards for format and exchange of names data[†] • Inventory, register and provide taxon name and concept data to the GBIF network[†] • Implement / utilise globally unique identifiers (GUIDs[†]) for names and concepts • Support the development of impact factors and other metrics of support for names providers
Informatics Infrastructure & GBIF Portal[†]	Participants	• Make use of the GBIF informatics suite to optimise benefits • Adopt the decentralisation strategy and mobilise investment in, and uptake thereof • Index nomenclatures, metadata[†], and primary biodiversity data[†] within the new distributed[†] model • Customise tools and services to meet own needs and also provide these freely to the network