Data on non-timber forest products—where, when and how?

RIU

Validated RNRRS Output.

A new guide is now available to help manage non-timber forest resources—all wild products from forests except timber and fuel. Nearly two-thirds of all forest flora are useful in some way but little formal knowledge exists, unlike for trees. This means that any management rules are likely to be based on the 'precautionary principle' rather than statistically sound data. But, better data underpins decisions on how to manage forests and can lead to certification of forest products. This means communities get more benefits from their resources. Now, case studies and work sheets show where, when and how to collect data about non-timber forest products. Then, how to choose management strategies, decide harvesting rules, assess markets and work out how these products could improve the lives of the poor.

Project Ref: **FRP40:**
Topic: **7. Spreading the Word: Knowledge Management & Dissemination**
Lead Organisation: **Wild Resources Ltd, UK**
Source: **Forestry Research Programme**

Document Contents:

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Geographical regions included:

Africa, Asia, Central America, Europe, South America,

Target Audiences for this content:

Forest-dependent poor,

Description

FRP40

A. Description of the research output(s)

1. Working title of output or cluster of outputs.

Toolbox for integrated sustainable forest resource management and commercialisation
Short title: NTFP toolbox

2. Name of relevant RNRRS Programme(s) commissioning supporting research and also indicate other funding sources, if applicable.

Forest Research Programme
EU (FAO project GCP/RAF/354/EC [1])
FAO

[1] Sustainable forest management in African ACP countries. Component 4: Development of techniques to assess non-wood forest products.

3. Provide relevant R numbers along with the institutional partners involved in the project activities.

ZF0077 [2], R8305

Table 1 Institutional partners

Year	Project	Partner
1998-2000	FRP ZF0077	FAO
		ETFRN
1999-2002	FAO GCP/RAF/354/EC	CIFOR, Yaoundé, Cameroon
		Copperbelt University, Zambia
		Forest Research Institute of Malawi
		Kenya Forest Research Institute
		Ministère des Eaux, Forêts, Chasses, Pêches, de l'Environnement et du Tourisme, Central African Republic
		Ministry of Environment and Natural Resources, Zambia
		Office National de Développement et des Forêts, Cameroon
		Université Nationale du Bénin
2005	FRP R8305	Wild Resources Limited
2006	FAO	Georg-August-Universität Göttingen

See Annex 1 for details of the relationship between the various projects listed in Table 1.

Contacts

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[2] Note there was no R number for the original work which was a pre-project 'state-of-knowledge' report commissioned by FRP and hence has a 'ZF' code – see Annex 1.

4. Describe the RNRRS output or cluster of outputs being proposed and when was it produced?

The security of livelihoods based on the collection of **wild products** depends on the implementation of **sustainable resource management**. The scientific basis for management is an understanding of the stock (quantity), quality and location of resources and the impact of harvesting on the populations and particularly their population ecology. Ethnobotanical surveys indicate that up to 60% of a flora can be used for some purpose or other by local people and just about any part of any type of plant can be used. In the tropics, there is often little if any scientific knowledge of the ecology of these species and their habitats. Harvest quotas are therefore most often set according to the **precautionary principle** within an **adaptive management** framework. If, as is often the case, it is required or desirable to use scientific knowledge then it is necessary that quotas and other harvesting rules are based on statistically sound data. This is particularly important in adaptive management where monitoring and detection of adverse harvesting impacts is a key element of the management strategy.

Resource inventory and at least the intent to apply adaptive management are commonplace in tropical forestry but unfortunately does not work particularly well for rarer species and has been optimised for use with large trees. For other products e.g. mushrooms or liana fruit normal forest inventory designs do not generally provide data of sufficient quality as measured by its precision to meet standards required for management planning. Furthermore it was discovered during the ZF0077 review that the majority of **NTFP** inventories failed to apply statistical principles. The ZF0077 workshop (Baker 2000) concurred with these findings and the review (Wong 1999) was edited and published by FAO as number 13 in the NWFP Series (Wong *et al* 2002). Work then continued under the FAO GCP/RAF/354/EC project (see Annex 1) to be picked up again by FRP under R8305. With further inputs from FAO the two volumes of the **NWFP Assessment Guidelines** are to be published by FAO sometime in 2007 (Wong & Kleinn 2007).

The Guidelines are not a textbook nor a conventional manual but a support system for the design of a **statistically sound inventory** for any NTFP. It was written with a target audience with a Diploma in forestry. It is a complete guide and includes work sheets for manual data analyses and a series of case studies drawn from across the world.

5. What is the type of output(s) being described here?

Product	***Technology***	***Service***	***Process or Methodology***	***Policy***	***Other Please specify***
			x		

6. What is the main commodity (ies) upon which the output(s) focussed? Could this output be applied to other commodities, if so, please comment

Non-timber forest products (This is a forestry term that includes the collection and cultivation of all non-traditional products from forests and trees i.e. all plants and animals *except* for timber, fuelwood and domesticated plants and animals.)

The principles outlined in the outputs also apply to wild harvested plants in any environment.

7. What production system(s) does/could the output(s) focus upon?

Semi-Arid	***High potential***	***Hillsides***	***Forest-Agriculture***	***Peri-urban***	***Land water***	***Tropical moist forest***	***Cross-cutting***
x			*x*			*x*	*x*

8. What farming system(s) does the output(s) focus upon?

Smallholder rainfed humid	***Irrigated***	***Wetland rice based***	***Smallholder rainfed highland***	***Smallholder rainfed dry/cold***	***Dualistic***	***Coastal artisanal fishing***

9. How could value be added to the output or additional constraints faced by poor people addressed by clustering this output with research outputs from other sources (RNRRS and non RNRRS)?

The Guidelines are a generic tool that will be published at international level. It is relevant to poor people as it will provide advice intended to improve the management of the resources which can provide the basis for their livelihoods. It forms one element, albeit an important one, of series of steps in understanding and developing sustainable livelihoods based on harvesting of NTFPs. The Guidelines were developed as a generic product with a global scope. However, there are few equivalent publications for the other stages in developing NTFP-based livelihoods. Examination of the other outputs identified by RIUP suggests that many of the elements required have been the subject of FRP projects. Generalising these and putting them together could potentially produce a set of integrated guidelines that can lead users through from correctly identifying their species to placing it on the supermarket shelf as shown in Table 2. Realising this would ideally involve testing products in different contexts and counties to be sure that they were truly generic or to indicate where and when they should be used. Many of the individual projects have up-scaling partners (often different sections of IUCN) who may be willing to come together to publish and disseminate the 'toolbox' and provide an institutional home to support their use.

Table 2 Clustering of FRP outputs

Stages	Output	Scaling-up partners
Identify species	R7475 Field guides manual	
Determine quantity of resource available	ZF0077 Inventory guidelines	FAO / IUCN

Select an appropriate management strategy	R8305 Medicinal bark handbook (first in a series for different categories of resource?)	IRWG MPSG
Determine optimal harvesting rules	R8295 Participatory science	IUCN Asia
Assess current use & trade	R7925 / R8305 Different approaches to market surveys	
Determine livelihood potential of resource / product	R7925 Decision-support tool for assessing commercial potential	TRAFFIC

Validation

B. Validation of the research output(s)

*10. **How** were the output(s) validated and **who** validated them?*

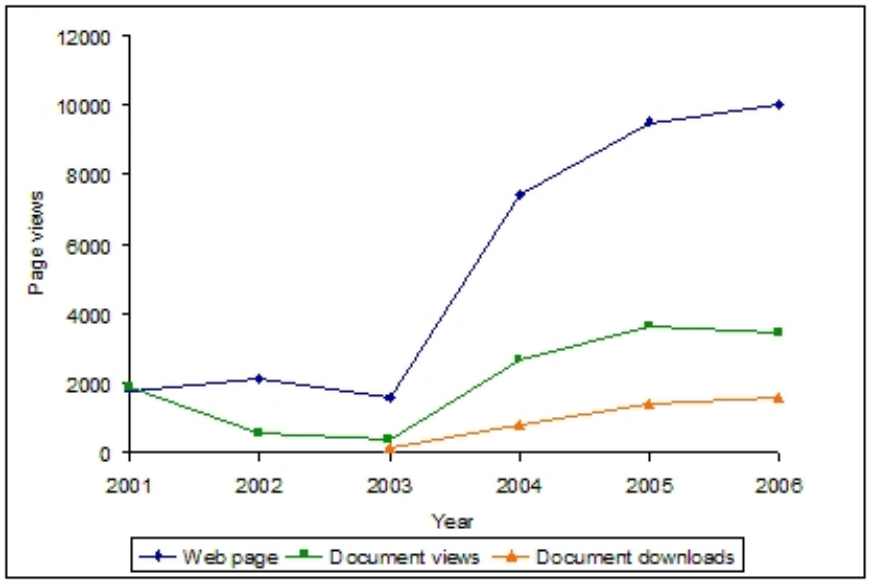
The outputs of this project were publications and awareness of the need to carefully consider statistical aspects of NTFP resource quantification. Verification of such outputs in terms of direct impact on poverty is problematic as there are several intermediaries between the output and the ultimate beneficiaries. However, demand for the publication itself can perhaps serve as a proxy for validation as the chance of the information provided making a difference will increase as it becomes more widely known.

The main ZF0077 outputs were the NWFP 13 publication and the workshop material made available on the ETFRN web site. Demand for NWFP 13 in hardcopy has been about twice the level for other titles in the series as shown in Table 3. The document can also be downloaded from the FAO web site but it has not been possible to obtain figures for traffic on this site. The value of NWFP 13 can also be gauged from reviews, most of which were favourable, published in around six international journals as well as a large number of citations [3].

Table 3 Distribution figures for NWFP 13

Language	Print run	Number distributed 2001-6
English	3000	2468
Spanish	1500	841
French	1500	697

Figure 1 illustrates activity on the NTFP biometrics web pages hosted by ETFRN. It apparently took a while for people to find the site and activity peaked after about four years. It is now apparently constant at around 1000 downloads and 10,000 page views per year.



Figures for 2003 unreliable because of changes in software used to track site activity.

Figure 1 Activity levels on http://www.etfrn.org/etfrn/workshop/ntfp/index.html

The initial ZF0077 review paper which is more academic in style has been adopted in its entirety into reading materials to support post-graduate courses in at least two universities (Larenstien University, Netherlands and Oregon State University, USA see Annex 1 and 2) as well as inventory manuals produced by the Pacific Northwest Research Station of the US Forest Service.

The other documents listed in Annex 1 are informal in nature (grey) and have not been widely disseminated and are little known. However, they are to be incorporated into the Guidelines presently in preparation.

[3] Unfortunately as this was not a strictly 'academic' publication and the reports which refer to it are mostly 'grey' literature and do not appear in the Web of Science citation index so it is difficult to quantify this assertion.

11. ***Where and when*** *have the output(s) been validated?*

Feedback on the outputs has mainly been from students and their teachers.

However, demand from forestry authorities and NGOs has also been high.

The principles espoused in the outputs are applicable to any production system though they, along with most work on NTFPs, focus on tropical moist forest systems and the forest-agriculture interface.

The outputs have been distributed or requested by people in most countries in the world.

Current Situation

C. Current situation

12. ***How and by whom*** *are the outputs currently being used?*

Demand for outputs remains high (see Figure 1 and Annex 2) and is used as a reference work by a range of users from forestry professionals to students and researchers. There is no mechanism to obtain general feedback from current users except for those seeking permission to reproduce part or all of the publications. Requests of this kind in 2006 include the following:

- Inclusion in teaching materials by Oregon State University (see Annex 2)
- Request for specialist inputs to the ISSC-MAP (see Annex 2 and http://www.floraweb.de/proxy/floraweb/map-pro/)
- Inclusion in Uwe Schippmann & Dagmar Lange (2006) Annotated bibliography on plant resource assessment methods for non-timber forest products with a focus on medicinal and aromatic plants (for MPSG)
- Assistance with implementing the new Guidelines from SAFIRE for use in their GEF-funded medicinal plants project (see Annex 2)

13. ***Where*** *are the outputs currently being used?*

Globally

14. What is the scale of current use? Indicating how quickly use was established and whether usage is still spreading

Use of ZF0077 outputs was established quickly as the around 2000 free copies of the NWFP 13 publication were distributed free of charge to a mailing list which included most forestry departments and universities around the world. However, as shown in Figure 1 it was a few years before the availability of the ETFRN web site was commonly known. Downloads from the EFTRN website for the past year (Nov 2005- Oct 2006) is 10,057 page views and 1,606 document downloads. This suggests that usage is probably still spreading as it seems likely that each downloads is a potential new user.

Even prior to publication SAFIRE are using the new Guidelines in their GEF funded medicinal plants project. Peer review of the drafts was also very positive and confirmed the need for support beyond the provision of the document (see Annex 2).

15. In your experience what programmes, platforms, policy, institutional structures exist that have assisted with the promotion and/or adoption of the output(s) proposed here and in terms of capacity strengthening what do you see as the key facts of success?

The two institutional partners on ZF0077; FAO and ETFRN have both assisted, indeed largely undertaken, the promotion and dissemination of project outputs. Both adopted outputs into their in-house publication series,

maintained outputs as freely accessible downloadable documents on their web sites and have promoted outputs through their newsletters: NWFP News; NWFP e-Digest (FAO) and ETFRN News.

The on-going influence and use of outputs to a large extent depends on their continued visibility and effective adoption by credible, durable and in this case global institutions. The outputs would have easily sunk without trace if they had been published by the project or indeed FRP as neither had the institutional gravitas or stability to maintain their availability. However, neither institution, especially not FAO are publishing houses and will only publish work to which they have been a party. It is therefore important to consider the involvement of appropriate networks and dissemination partners in a project team. Such partnerships also pay dividends in terms of networking during the project, the development of better quality publications and co-funding for dissemination. Networking institutions also need the support of the network members to continue to exist. For example, of the seven workshops hosted by ETFRN, three were funded by FRP.

A key factor of success here as for all other parts of a research or development project is the development of open and honest partnerships.

Current Promotion

D. Current promotion/uptake pathways

*16. **Where** is promotion currently taking place? Please indicate for each country specified detail what promotion is taking place, by whom and indicate the scale of current promotion*

Global low-key promotion through FAO and ETFRN web sites.

Promotion and use of both the earlier outputs and the latest Guidelines continues through involvement with the development of guidelines for sustainable harvesting of medicinal plants both for the MPSG (ISSC-MAP) and Natural England.

Through R8305 and other contacts the Guidelines are in demand from forestry training institutes in Africa (Malawi, Zambia and Ghana – see Annex 3).

Also through R8305, there is general awareness within southern African forestry institutes that the Guidelines are close to completion.

Promotion will commence in earnest once the Guidelines have been published.

17. What are the current barriers preventing or slowing the adoption of the output(s)? Cover here institutional issues, those relating to policy, marketing, infrastructure, social exclusion etc.

Perhaps the biggest barrier to the adoption of the outputs in developing countries is the difficulty of learning practical skills from written materials in a second or third language. It Although the outputs have been prepared

for Diploma graduates it is easier to effect technology transfer from practical demonstration i.e. from training which is not currently available.

A further barrier to the uptake of statistically founded resource assessment is a degree of ambiguity concerning its role in C&I, certification (e.g. FSC) and other sustainable harvesting guidelines e.g. ISSC-MAP. Although all of these documents contain references to collection of data on which to base management plans there is usually no indication of how this is to be collected (it could come from social surveys as well as field inventory) nor of the precision required for say setting an annual harvesting quota.

In the literature there is often some antipathy or at last ambivalence to the use of statistically founded techniques on the grounds that they are too complex and therefore inappropriate for use in participatory contexts. There is therefore a reliance on IK or imprecise, simplistic data collection methods in such situations.

18. *What changes are needed to remove/reduce these barriers to adoption?*

Through discussions with several forestry colleges specialist training courses including practical exercises would be required to develop inventory skills amongst the students and also as in-service courses. The forestry colleges themselves do not have the resources in terms of funds or technical knowledge to develop such courses. Forestry departments and some NGOs cannot afford to send staff on in-service training courses nor to equip their staff with the few basic tools required. However, changes in civil service funding flows is beyond the scope of a FRP project and probably RIUP.

Finding an appropriate ways of incorporating statistical methods into participatory management is something which has been addressed by the R8205 project. Promoting and learning from R8205 outputs would perhaps assure detractors of the accessibility of statistical methods of knowledge acquisition. Partnership with socially orientated projects and working together to explore what is and is not possible with a range of communities.

Improving on the definition of standards for certification and the like will depend upon being able to demonstrate where, when, how to collect statistical data and the advantages of doing so.

19. *What lessons have you learnt about the best ways to get the outputs used by the largest number of poor people?*

Reaching the facilitators who work directly with poor people is a challenge which needs more inputs than simply the provision of reading materials. Training and ideally mentoring during initial uptake is required to ensure effective technology transfer.

Impacts On Poverty

E. Impacts on poverty to date

20. *Where have impact studies on poverty in relation to this output or cluster of outputs taken place?*

No such studies have taken place as this is difficult to assess for a generic, global output which requires uptake by several intermediary stakeholders before reaching poor people.

21. Based on the evidence in the studies listed above, for each country detail how the poor have benefited from the application and/or adoption of the output(s)

As outlined under Question 4 the provision of good quality data are often a condition of management agreements and harvesting licenses. Assisting communities and user groups to collect and use statistically sound and useful data will help overcome one of the barriers to security of tenure over forest resources. These resources form the basis of many livelihoods. Security of supply as consequence of both the licenses and the application of sustainable management can serve as an incentive for investment in value-addition and hence improvements in income and economic growth.

F. Potential (future) poverty impact

22. Where are potential poverty impacts achievable?

The demand for reliable NTFP inventory data is usually only indirectly mentioned in policy where it is often assumed that NTFPs can be treated in the same manner as timber or, most often, are treated as for subsistence use only and therefore a social and not resource management issue. Forest strategies often mention NTFPs but often as an income opportunity. As mention under Question 17 certification directly mention the need for NTFP data is most often mentioned though this is often ambiguous. Forest management agreements usually require data and this is usually judged according to the same standards as timber or ‘normal’ forest inventory. This means quality is equated to the application of statistical principles and measured using sampling precision. This is also the one which is most directly relevant to livelihoods.

Demand for project outputs is therefore strongest where management plans are required as a prerequisite for forest co-management. This is the case in many countries and situations such as Joint Forest Management in India, Co-management in Malawi, Collaborative management in Ghana etc.. Good quality data is also required for certification such as for Brazil nuts. There is some demand for strategic level information on NTFPs such as for the national forest inventories of Ghana, Uganda and India.

For the reasons detailed under Question 21 the outputs of the project can contribute to poverty reduction by providing for secure access to resources which can be used as a basis for enterprise development. When the resource being managed is a medicinal plant improved sustainability also contribute to health security. This is particularly the case in Africa where an estimated 60% of the populace depend on traditional medicine for primary health care.

Providing reliable data on resource availability at a national or strategic level is important to guide larger-scale decisions concerning promotion of particular products, export investment, identification of threats to important resources and action to protect threatened species. At present few forest inventories include NTFPs.

NTFP data and management are generally considered an issue in the following contexts:

- where collaborative, joint, community-based etc forest management is practiced;
- in community-owned forest management;
- within protected area or their buffer zones;
- to provide livelihoods for rural landless people;
- forest-based livelihoods less destructive than tree felling is sought;
- domestication of important resources is not an option and
- where the NTFPs themselves are threatened.

Although it is most often thought that these situations arise most often in developing, tropical countries they are in fact universal. Farmers in Wales and ethnic minorities in the USA can also benefit from sustainable utilisation of NTFP to diversify or support their incomes.

The notion of NTFPs arises from a forestry perspective but it equally applies to all products collected from the wild from any environment. Since it is most often applied to forested landscapes, NTFPs are usually classed as falling into the forest-agriculture interface production system.

Environmental Impact

H. Environmental impact

24. What are the direct and indirect environmental benefits related to the output(s) and their outcome(s)?

The outcome of the outputs should be better management of NTFPs – this would have the direct environmental benefit of preventing the extirpation or extinction of species of importance to man as a livelihood resource. Sustained supplies of NTFPs from forests it is hoped will be an incentive to maintain forest cover and so prevent further forest degradation and loss.

Indirect benefits are the realisation of commitments under international forest and conservation agreements. It is hoped that even small successes with environmental objectives will encourage greater commitment to global environmental stewardship.

25. Are there any adverse environmental impacts related to the output(s) and their outcome(s)?

None that are apparent.

26. Do the outputs increase the capacity of poor people to cope with the effects of climate change, reduce the risks of natural disasters and increase their resilience?

The outputs would increase the resilience of poor people by ensuring that supplies of essential medicinal plants, subsistence foods and livelihood resources are maintained, available in predicable quantities and through management agreements over which they have security of tenure.

Annex 1

Abbreviations

C&I	criteria and indicators (of sustainable forest management)
ETFRN	European Tropical Forestry Research Network
FAO	Food and Agriculture Organisation of the UN
FRP	Forestry Research Programme
FSC	Forest Stewardship Council
GAU	Georg-August-Universität Göttingen
IRWG	Indigenous Resources Working Group
ISSC-MAP	International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants
IUCN	International Union for the Conservation of Nature
MPSG	Medicinal Plants Specialist Group (IUCN)
NGO	non-governmental organisation
NTFP	non-timber forest product
NWFP	non-wood forest product (term used by FAO ≈ NTFP)
SAFIRE	Southern Alliance for Indigenous Resources

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Mr Hikojiro Katsuhisa of FAO, Mr Stewart Maginnis of IUCN and Prof. Christoph Kleinn (R8305) of Georg-August-Universität Göttingen have confirmed the value of providing support to the uptake of the new NWFP assessment guidelines. The idea of scaling up generic versions of FRP outputs related to NTFPs arose from discussions with Gerald Meke of the Forest Research Institute of Malawi (R8305, R6709 & R7822) and was further supported by Kate Schrekenberg (R7925) and Anna Lawrence (R8295 & R7475).

However, the views expressed in this document are the sole responsibility of the author.

Annex 2

Contents

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PF_FRP40_Annex2.pdf