

Wetlands Indigenous Knowledge

Documentation Methodology And Application Guidelines



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Ministry of Forests and Soil Conservation
Conservation and Sustainable Use of Wetlands in Nepal (CSUWN)

सिम्सार संरक्षण तथा सदुपयोग आयोजना

FEW WORDS

Nepal is richly endowed and blessed with a variety of wetlands. These wetlands are unique because of their diverse topography varying from subtropical to tundra climate; support agrarian socio-economy and form religio-cultural foundation for various communities. There are about 21 indigenous and ethnic communities that are dependent on wetland resources for their livelihood as wetlands are important in their day to day life. Wetlands provide various resources such as food, fodder, fiber, medicine and other subsistence needs. These communities with their traditional knowledge and practices, skills and experiences have been using them from time immemorial.

Biodiversity and Wetlands are critical to achieving the MDG's as environmental sustainability is crucial for all, particularly the indigenous and wetland dependent communities. However, their Indigenous Knowledge (IK) and skills are at risk of becoming lost because of the rapidly changing natural environments and fast pacing economic and socio-cultural changes on a global scale. In a country like ours where the livelihood of rural lives is more dependent on natural resources, proper documentation of IK is a must. Documentation of IK with widely accepted standardized methodology is the real need of the time.

This IK documentation methodology & its application guidelines has been developed to fill the current gaps for future actions. Moreover, we also hope that this document will become an important resource material for experts and practitioners working in the areas of wetlands.

At this juncture, I would like to express our gratitude to the Ministry of Forests and Soil Conservation, Department of Forests, and Department of National Parks and Wildlife Conservation for the continued support and cooperation. I would like to take this opportunity to thank UNDP and GEF for providing the technical and financial support. I would also like to thank various conservation partners, individual experts who have contributed from the early consultation process to bring this document to this stage. Finally, I would like to acknowledge and thank the expertise of Prof. Dr. Dharma Raj Dongol- IAAS, Rampur and Mr. Amir Poudel-NARMA Consultancy, Kathmandu for the preparation of this document.

Top B. Khatri
National Programme Manager

Acronyms

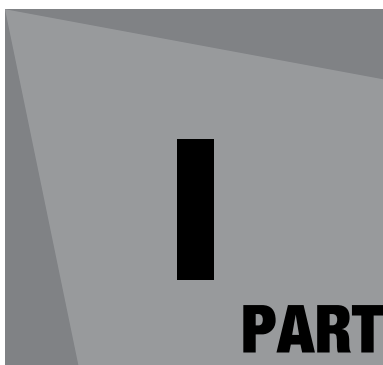
| | |
|---------|--|
| CBOS | Community Based Organisations |
| CEPA | Conservation, Education, Participation and Awareness |
| CSUWN | Conservation and Sustainable Use of Wetlands in Nepal |
| DNPWC | Department of National Parks and Wildlife Conservation |
| DoF | Department of Forest |
| GEF | Global Environment Facility |
| GLA | Ghodaghodi Lake Area |
| GoN | Government of Nepal |
| HHs | Households |
| I/N/GOs | International/Non/Government Organizations |
| IK | Indigenous Knowledge |
| ILO | International Labor Organization |
| KTWR | Koshi Tappu Wildlife Reserve |
| LRP | Local Resource Person |
| MFSC | Ministry of Forests and Soil Conservation |
| PIC | Prior Informed Consent |
| TK | Traditional Knowledge |
| UNDP | United Nations Development Programme |
| VDC | Village Development Committee |
| WDC | Wetland Dependent Communities |
| WIK | Wetland Indigenous Knowledge |

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WETLAND INDIGENOUS KNOWLEDGE (WIK) DOCUMENTATION METHODOLOGY

1. Background

Nepal is considered rich in terms of indigenous traditional knowledge due to its geographical and ethnic diversities. Indigenous Knowledge (IK) has been a part of rural poor and is socially accepted, environmentally sound and suited to local environmental conditions.

Indigenous Knowledge and Indigenous communities go hand-in-hand. These communities have been utilizing various natural resources including the wetlands resources as part of their livelihood activities for many generations. They extract resources such as animal food, forage, fuel-wood, fiber, medicinal plants and many more to meet their subsistence needs. These communities have been practicing different IK base techniques for wetland resource utilization and its management. Contributing to this are numerous social, cultural belief systems, economic incentives, taboos and religion that ultimately govern their utilization pattern and wetland management practices.

One growing concern however is the rapid decline of such knowledge from the indigenous communities which not only puts their livelihood at risk but also ruin the potential benefits that can be drawn from such knowledge. Hence, there is a need to document the rapidly vanishing knowledge.

It is crucial that the documentation of IK should be included in the conservation and sustainable development as a cross-cutting issue.

2. Objective of the methodology

Conservation and Sustainable Use of Wetlands in Nepal (CSUWN) is a joint undertaking of the Government of Nepal (GoN), Global Environment Facility (GEF) and United Nations Development Program (UNDP). The project is executed by Ministry of Forests and Soil Conservation (MFSC). Department of Forests (DoF) and Department of National Parks and Wildlife Conservation (DNPWC) are the major partners of the project. The project is being implemented in two Ramsar sites of Nepal: Koshi Tappu Wildlife Reserve (KTWR) and Ghodaghodi Lake Area (GLA) since 2009.

The project has a broader goal to ensure the maintenance and enhancement of wetland biodiversity and environmental goods and services for improved local livelihoods in Nepal. The project aims to fulfilling an outcome of generating wetland related technical knowledge base such as Wetland Inventory & Assessment, Indigenous Knowledge Documentation, Alien/ Invasive Species Management Guidelines, CEPA (Communication, Education, Participation & Awareness) materials to bring long term changes to the perception, value and sustainable management of wetlands in Nepal.

At this juncture, the project intends to generate a standardized Wetland Indigenous Knowledge Documentation Methodology and its application guidelines that will be an important resource material for experts and practitioners working in the areas of wetlands.

3. Understanding of the concepts

Wetlands: Under the Convention on Wetlands (Ramsar, Iran, 1971) "wetlands" are defined by Articles 1.1 and 2.1 as shown below:

Article 1.1: "wetlands are areas of marsh, fen, peat-land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters."

Article 2.1: provides that wetlands: "may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six meters at low tide lying within the wetlands".

Indigenous Knowledge: 'Indigenous knowledge' has been defined in many ways in literature. Brokensha, Warren & Werner in 1980 defined IK as the 'accumulated knowledge and traditional skills and technology of a people, culture, sub-culture. It encompasses both technical and non-technical knowledge including world view, social and religious customs and taboos, vegetation, climate, ecology, communication pattern and music". As indicated in the box, international community have duly recognized the importance of indigenous knowledge and the rights of the

ILO Convention on Indigenous Knowledge and Tribal People, 1989 (No.169) provides linkages between indigenous knowledge and natural resources management.

Article 7.4: Governments shall take measures, in co-operation with the people concerned, to protect and preserve the environment of the territories they inhabit.

Article 15.1: The rights of the peoples concerned to the natural resources pertaining to their land shall be specially safeguarded. These rights include the right of these people to participate in the use, management and conservation of these resources.

indigenous people to use, manage and conserve the natural resources (including wetlands).

Indigenous knowledge related to wetlands: Broadly two types of IK related to wetland resources are prevalent namely a) knowledge associated with the utilization of wetland resources and b) knowledge regarding the management of wetlands.

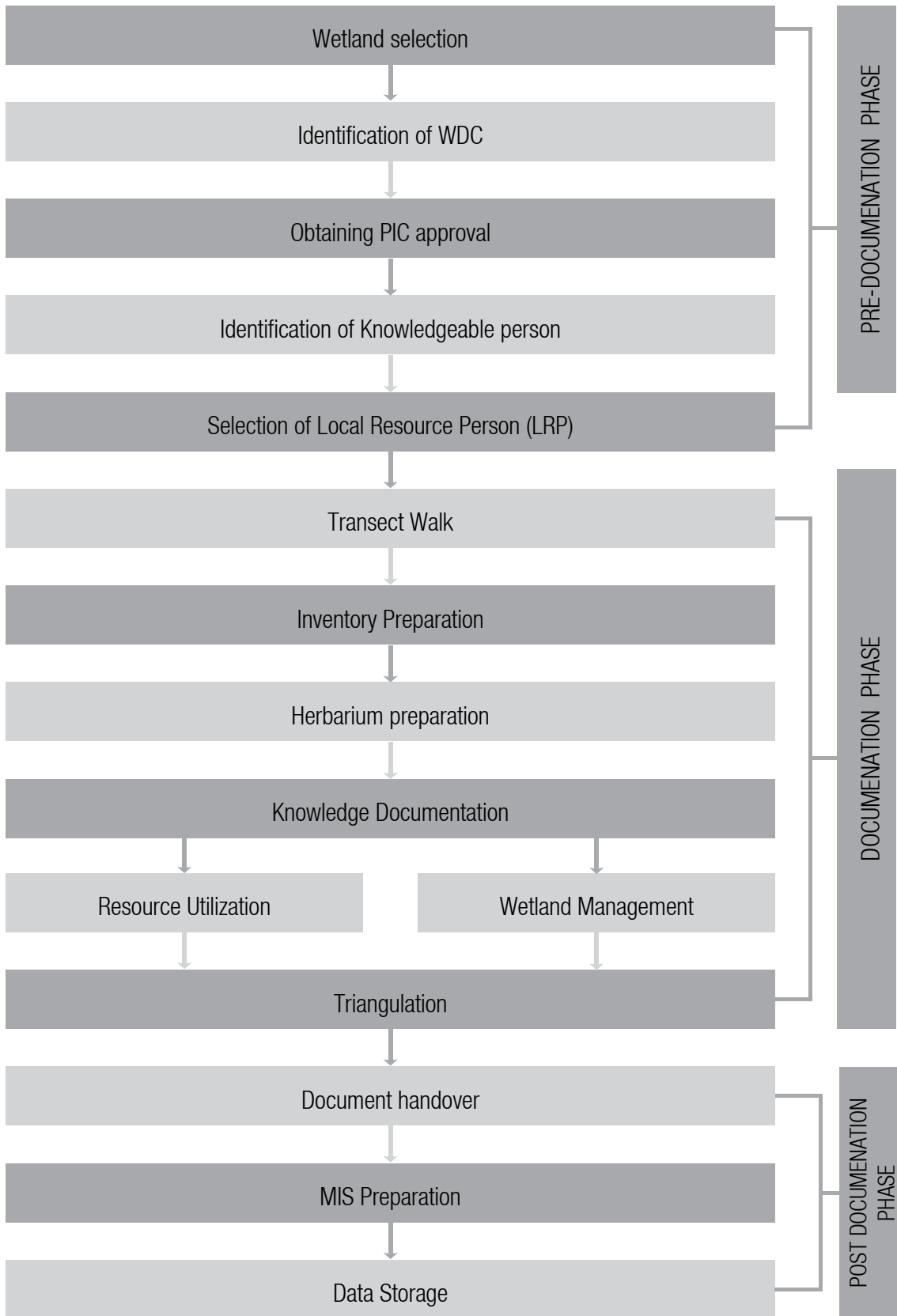
- **Resource utilization:** This broader category includes the IK related to utilizing wetland products as medicine, food, fiber, fodder, fuel-wood, equipments, housing materials etc.
- **Wetland management:** This category includes IK associated with protecting the wetlands from degradation, conserving the wetland resources, adjusting their product collection time, use of appropriate tools for resource harvesting etc.

WIK Documentation: A key challenge is the gradual loss of wetland related knowledge among the indigenous communities. There is thus a growing need to prevent loss of such valuable knowledge through documentation. Likewise, many WIK have importance in terms of future bio-prospecting and development. Thus documentation refers to the process of collecting these age old indigenous knowledge in a pre-determined format so that such vanishing knowledge can be prevented from loss and well as can be utilized in future for economic gains.

4. Undertaking the actual documentation

Overall steps of the WIK documentation can be broadly categorized into three phases namely pre-documentation, documentation and post-documentation. Each of these phases with their respective steps has been schematically shown below:

Figure 1: Schematic presentation of the steps to be followed for WIK documentation



4.1 Pre-documentation phase

This phase includes a total of five steps which needs to be followed before starting the actual documentation.

Step 1:

Identification of wetland sites: Selection of the wetland site is the first step for documentation. Some key criteria have to be followed while selecting the important wetland sites. Key wetland selection criteria and their respective decision making logic for identifying wetlands are presented in Table 1 below.

Table 1: Wetland selection criteria and the selection logic

| SN | Criteria | Decision making logic |
|----|--|--|
| 1 | Wetland of international importance | Select those wetlands that have been categorized as wetland of international – Ramsar sites |
| 2 | Wetland dependency | Select those wetlands on which majority of communities show dependency for livelihoods |
| 3 | Vulnerable bio-resources and associated IK | Select those wetlands where wetland related indigenous knowledge are either degrading very fast or are being greatly harnessed for economic values |

Information on these criteria has to be derived through review and interaction with key personnel and agencies that have long experience working in the wetland sector.

Step 2:

Identification and mapping of the WDC: The heart of the IK documentation exercise lies on identifying the local communities and understanding the linkages between their social and cultural value system and wetland management and resource utilization. Following criteria should be used while identifying the wetland dependent communities as shown in Table 2.

Table 2: WDC selection criteria and the selection logic

| SN | Criteria | Decision making logic |
|----|----------------------|--|
| 1 | Level of dependency | Select those communities which show very high dependency on wetlands and whose source of livelihoods is largely dependent upon wetland resources |
| 2 | Origin | Select those communities which are indigenous to the locality |
| 3 | Level of disturbance | Select those communities which are least affected by recent developed activities and have been successfully preserving their social and cultural values associated to wetlands |
| 4 | Occupation | Select those communities whose major occupation is derived out of wetland products and services |

After a list of WDCs is obtained, next step is to map them around the wetland site. It should be noted that each community might be distributed in several locations around a wetland. These settlement patches should be identified and each of them should be sampled for documentation. However, if this is not possible due to time and resource constraints, those patches which have the maximum households containing the identified community and those patches containing some of the very knowledgeable persons (traditional healers, fishermen etc) in the community should be selected. As they are the ultimate group from whom the WIK is to be documented, WDC selection should be done following proper consultation and triangulation.

Step 3:**Obtaining Prior Informed Consent (PIC)**

approval form: After sharing the objectives and convincing the community members about WIK documentation, the study team should obtain a formal approval from the local community members for undertaking documentation. A standard Prior Informed Consent (PIC) Agreement form should be used to derive such approval. Sample of the PIC form has been attached in Annex 1. Further elaborations on the PIC approval process have been presented in the second part of this document (Guideline).

Step 4:**Identification of knowledgeable persons:**

Members of indigenous community having good knowledge regarding wetland resources and management practices should be identified. Some of the key criteria to be used while selecting the key informants include a) individuals residing in the local community and having a long time association with wetland products and services b) people whose daily income depends upon practicing WIK such as medicinal healers c) preferably people with age passed 50 years.

Step 5:**Selection of Local Resource Person (LRP):**

Documentation of WIK becomes easier if locally hired individuals are involved as they are more familiar with the sensitivity regarding social, cultural and religious values in a community.. Criteria such as those who can a) read and write properly b) are very fluent in the local dialect c) have good public relationship d) show willingness and capacity to communicate with elderly people should be considered during LRP selection.

4.2 Documentation phase

This phase includes a total of five steps which needs to be followed before starting the actual documentation.

Step 6:

Transect walk: Next step is to involve Knowledgeable person and LRPs in transect

walk. Sample of plant and animal specimen should be collected for proper identification and recording. An important consideration is that during transect walk only the plants and animals found in that particular season will be recorded. To obtain a complete list of such products, such transect walk has to be done in every season. This however might vary depending upon the scope and resources available for documentation. Nonetheless, community consultation and product listing should be done very comprehensively to avoid this key challenge.

Step 7:**Inventory Preparation:**

Once the complete list of products being utilized by the local community is derived through consultation and transect walk, next step is to prepare an inventory of such products. Inventory should be made based on the use category. Standard inventory methodology should be followed. Format of the inventory sheet has been attached in Annex 2. This inventory sheet will assist in understanding the total number of products being used by the indigenous community members. The amount of information to be derived entirely depends upon the resources and scope of the documentation. Not all the products can be included in the inventory. Following category of products should not be missed out in the inventory:

- Products and their knowledge highly vulnerable to extinction from the community
- Products and knowledge with high economic and social values
- Products and knowledge that are unique to the particular community or wetland

Step 8:

Herbarium preparation: Herbarium preparation should be immediately started

after the collection of the wetland products. As the plants and animals collected during the transect walk might get destroyed due to dying, decaying etc they should be preserved for better identification. Standard storage techniques should be followed during the process. Depending upon the situation, herbarium preparation might extend till the end of the documentation process.

Step 9:

Knowledge documentation: Next step is to fill the standard format of WIK documentation. Broadly two types of knowledge need to be documented namely knowledge associated with product utilization and knowledge associated with wetland management.

Resource Utilization: There are a total of two forms to be filled up at this stage as presented in Annex 3.

- **Form A:** Form A provides general information about the selected wetland site and the indigenous community. Information such as name of the wetland, area of the wetland site, adjoining VDC/districts, name of the dependent indigenous communities, no. of dependent households, major flora and fauna, major threats to the wetlands, major land-use types around the wetland sites, etc are included in this form. Data collection should be done through both primary and secondary sources.
- **Form B:** Form B provides information about the knowledge associated with the products collected from the wetland site by the indigenous community. Information such as name of the bio-resources, its local/English/scientific name, , unique characteristics, habitat, status and trend of resource availability; utilization and management techniques; processing and storage techniques, economic value of the product and the

associated knowledge among others are recorded in this form.

It should be ensured that regardless of the scope and resources available for documentation, WIK with the following attributes should not be missed during documentation:

- rapidly vanishing knowledge
- knowledge with high economic importance
- knowledge limited to very few individuals in the community

Note: Documentation of IK can be done through other means as well such as audio-visual technology, taped narration, drawings, or other forms of codifiable information. This however depends entirely upon the scope and resources available for any documentation project. Nonetheless, it becomes more comprehensive and understandable if these later means are also applied during documentation.

Wetland management: Documentation of indigenous knowledge related to wetland management involves three steps as presented here under:

Step A: Listing of wetland management practices: Different types of knowledge related to management can be found in wetland sites. These activities are mostly directed towards achieving economic, environmental and social benefits. These knowledge should be systematically listed down. Refer to Annex 4 for a sample of the checklist to be used for listing of the WIK related wetland management. Not all the management practices contribute towards wise use and management of wetland sites. Thus there is need to assess the contribution of the management practices to sustainable management and wise-use.

Step B: Assessing the contribution of the management practice to sustainable

management (wise use): While some management practices are environmentally friendly and give due account for future sustainable use of wetlands, many are dedicated towards over exploitation and overuse of wetland resources. Following key issues have to be assessed for understanding the contribution of the wetland management practices to wise use of wetland resources and its management:

- **Species conservation:** Those IK that contributes towards the conservation of species within the wetland site should be documented.
- **Water body protection:** Indigenous practice that protects the water body also significantly contributes towards wetland management. Plantation of grasses along the ponds, lakes etc; building of bunds on agriculture land for water retention; plantation of trees along river course etc, are some of the knowledge base that positively contribute towards wetland management which should be documented.
- **Catchment area management:** Management of the catchment area feeding water into the wetland site also governs the quality of wetland site. Certain forested areas are protected as religious forests; grazing practices in certain areas are prohibited. These types of indigenous practices that protect the catchment areas of the wetlands should be documented.
- **Sustainable harvesting:** Certain key techniques are applied by indigenous communities during resource collection that contributes towards sustainable utilization of the wetland resource. Use of traditional fishing tools, adjustment in time and process of resource collection etc contribute significantly towards sustainable resource utilization.

These factors have to be assessed for all the indigenous knowledge that is compiled from the community.

Step C: Documentation of the WIK contributing to sustainable utilization: Those knowledge systems that are found to be contributing towards sustainable management of the wetlands should be documented. Indigenous wetland management practices that contribute to at least one of the four issues can be referred as WIK that contributes to sustainable management of wetland. Refer to Annex 5 for the documentation format of WIK management practices.

Step 10:

Triangulation: Knowledge documented is mostly based on recall method. There is a higher chance that the collected information might have errors. Hence there is a need to validate the correctness of such documented knowledge. The collected information should be verified through focus group discussion with other members of the indigenous community. It should be noted that certain knowledge are possessed entirely by few individuals in a community. Under such circumstances, knowledge collected from one person should be validated with other persons. If only one knowledgeable person is present, then it should be validated through review and if possible by interacting with other knowledgeable persons of the same indigenous tribe around the wetland site or from elsewhere. As majority of the knowledge are already in the public domain of the indigenous communities, except for very few medicinal plants, collected data can be easily verified.

4.3 Post documentation phase

Step 11:

Handing over of the document: Once the documentation is complete, it has to be handed over to the concerned authority as part of record

keeping. Regardless of who is undertaking the documentation exercise, it is strongly advised that the local community should also receive a copy of the documentation which will significantly contribute towards the conservation of such knowledge. The document will be timely referred and utilized by new generations and will aid in controlling knowledge erosion from the local community.

Step 12:

MIS preparation: Information gathered from the field should be systematically managed and stored for future reference and use. A software package should be developed for storing data of all the documentation sheets (Form A and B). Once the package is finalized and tested, it should be shared with the relevant Government Ministries. Appropriate trainings should be provided to the concerned Government staff at

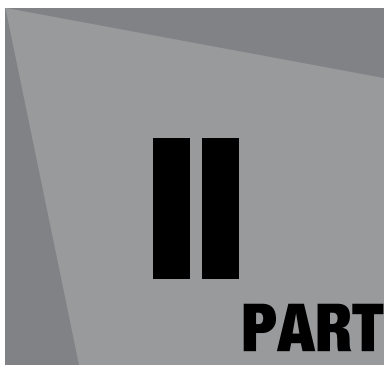
the central level to use and maintain the software package. The Government should ensure that all the WIK documentation conducted in the country should be entered into the system for better information access and use. The Government should keep the database and the software very safely such that it does not get into the hands of unauthorized individuals and agencies. Any distribution or use of such knowledge should be done through detailed consultation with the local community.

Step 13:

Data Storage: There are equal risks that the collected data might be lost. Thus they should be adequately stored by a designated responsible authority. Storage of such data should be done by the Government. MFSC should take the lead role in storing such data for future retrieval and use.

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WETLAND INDIGENOUS KNOWLEDGE (WIK) DOCUMENTATION GUIDELINES

1. Background

There are areas where further elaboration will help for better adoption of the methodology. Furthermore, the guideline elaborates some of the key issues that need for the further explanation for better understanding.

2. Objective of the guidelines

The main objective of developing the guideline is to guide towards the direction for filling the different forms and checklists that are a part of the methodology.

3. Directions for filling up the different forms

Prior Informed Consent (PIC) Agreement form (Annex 1): PIC agreement form is one among the different components of WIK documentation. As highlighted in previous section, it should be signed by different parties prior to undertaking WIK documentation.

Who: Who signs the PIC form is a leading question. PIC form should be signed by different influential members in the community such as political figures, school teachers, members of local federations, representatives of the VDC, representatives of the existing government organization, local NGOs, community based organization (CBOs) among others. It should be clearly noted that those persons/institutions who can question or hamper the documentation exercise in

future should be invited during this stage and be convinced about the different aspects of documentation. In general, signing PIC form also creates trust and ownership between the local community and the documenting party. Sometimes even the individual knowledge holders might place demand for obtaining PIC form prior documentation. Under such circumstances a separate form has to be made and signed for individual knowledge holders.

When: Best time for signing the PIC agreement form is when all the representatives in the local community gather at a common place. The best time is during an orientation workshop conducted during the documentation. During the awareness raising exercise, the theory and context of PIC form should be properly communicated. Following the awareness PIC agreement form should be signed.

How: The form should be signed by the community members. For those who cannot sign, finger prints should be stamped on the PIC agreement form. In addition, representatives of the local institutions should provide a stamp of their organization along with their names.

Product inventory sheet (Annex 2): The inventory lists all the important products being used by the indigenous community. There are a total of seven use categories identified as briefly explained below:

| SN | Category | Descriptions |
|----|--------------------------------|--|
| 1 | Food | Edible items derived from the wetlands such as roots, leaves, shoots of plants; animals for meat etc |
| 2 | Fodder | Plants that are fed to livestock derived from wetland |
| 3 | Medicine | Plants and animals found in the wetlands that have medicinal values for curing diseases in human and livestock |
| 4 | Tools and Equipments | Plants and animals whose parts or whole can be used as tools and equipments for household needs |
| 5 | Housing and Agriculture inputs | Plants and animals that can be used as housing and agriculture materials |
| 6 | Energy | Plants that can be used as fuelwood or as other source of energy |
| 7 | Processing and sales | Plants and animals which can be further processed and sold to the market. |

For each of these use categories, local, Nepali, English and scientific names should be collected.

| SN | Category | Descriptions | Remark |
|----|-----------------|---|---|
| 1 | Local Name | Name of the plants or animals as they are called in the indigenous dialect should be written. Even within the same community a product could have different local names. Under such circumstance the mostly called common name should be written. | Local names are the main reference via which scientific names are collected hence they should be given due time and consideration. Other local names of the product can also be recorded for easier identification. |
| 2 | Nepali Name | Refers to the name of the product as called in nepali language | Not all the products' nepali name can be collected in the field. Hence, through herbarium and review Nepali name should be collected. The name should be written in Italics. |
| 3 | English Name | Refers to the English name of the product. | This name is collected through review and in consultation with experts. |
| 4 | Scientific Name | Refers to the scientific name of the product. | It should be written in a standard common format throughout the inventory sheet. Eg. Bojo should be written as <i>Acorus calamus</i> . |

Documentation Formats (Form A and B)

Annex 3: There are two separate forms for filling the indigenous knowledge.

Guideline for filling up form A

| SN | Items as in Form A | Instructions |
|------|---|---|
| 1 | Name of the wetland | Refers to the wetland where documentation is being carried out |
| 2 | Area | Refers to the total area of the wetland site |
| 3 | Village/community name | Refers to the actual village or community where documentation is being carried out |
| 4 | VDC/Municipality | Refers to the name of the VDC or municipality where documentation is being carried out |
| 5 | Ward No. | Refers to the ward number where the indigenous community is located and where the documentation is being carried out |
| 6 | District | Name of the district where the wetland is situated |
| 7 | Adjoining VDCs of the wetland | Refers to those VDC which are adjoining to the wetland sites |
| 8 | Name of the dependent communities | Refers to those indigenous communities that show dependency towards the wetland site |
| 9 | No. of dependent households | Refers to the tentative or recorded estimate of the total number of households belonging to the selected indigenous community |
| 10 | Total population of the WDC | Refers to the tentative population of the indigenous community |
| 11 | Major Flora | Refers to the commonly found plants |
| 12 | Major Fauna | Refers to the major animals that are sighted on the wetland site |
| 13 | Major threats to wetland | Refers to the human induced and natural problems and challenges faced by the wetland such as encroachment, flooding, siltation etc |
| 14 | Who is involved in the collection of the wetland products | Refers to the person in the household whether male or female that are mostly involved in resource collection from the wetland |
| 15 | Wetland services | Refers to the different services being derived from the wetland such as livestock bathing, watering, washing etc |
| 16 | Major agriculture system | Refers to the cropping pattern practiced around the wetland site |
| 17 | Major cereal crops around the wetland | Refers to the main crops grown by the community around the wetland site |
| 18 | Major livestock | Refers to the main livestock owned by the local community around the wetland site |
| 19 | Main forest types | Refers to the main forest types found around the wetland site |
| 20 | Major species found in the forest | Refers to the main plant species found in the forests |
| 20.1 | Major wild animal | Refers to the main wild animals found in the surrounding forests |
| 21 | Map of wetland | Refers to the social map. The map should clearly show the distribution of the indigenous communities, major land use types, infrastructures etc |
| 22 | Resources at risk | Refers to the main plants and animals that are at the highest risk at present |

Guideline for filling up form B

| SN | Items as in Form B | Instructions |
|------|-------------------------------|---|
| 1 | Bio-resources | Refers to the bio-resources used by community whose IK is to be documented |
| 1.1 | Local Name | Refers to the name of the product known in the local dialect |
| 1.2 | Nepali Name | Refers to the Nepali name of the bio-resource |
| 1.3 | English Name | Refers to the English name of the bio-resources |
| 1.4 | Scientific Name | Refers to the scientific name of the resource |
| 2 | Types | Refers to the different types of species of the particular resource being used by the community |
| 3 | Unique | Unique characteristics of the bio-resources such as color, smell, height, dependent species etc |
| 4 | Location | Refers to the place where plants are found such as shady area, marshes, ponds, lakes, rivers, agriculture land etc |
| 5 | Habitat | Refers to the living place of animals found in the wetland such as inside water, banks, trees etc. |
| 6 | Trend of availability | Refers to the change in the availability of the resource between now and 5 years ago |
| 7 | Since when in use | Refers to the time since the bio-resource was being used |
| 8 | Uses | Refers to the different types of use of the bio-resources such as food, medicine, poison, religion, culture etc |
| 8.1 | Parts and products used | Refers to the particular parts of the plant or animal that is being used. Eg. Leaves for medicine, stem for making mats, gall bladder for medicine etc |
| 9 | Processing and use techniques | Refers to how the bio-resource is used. How is it eaten, if it is food; How is the medicine made and applied/consumed; How is a mat made etc ? |
| 9.1 | Who | Refers the chief responsible person involved in processing |
| 9.2 | When | Refers to the time of the year that the bio-resource is collected |
| 9.3 | Where | Refers to the processing site |
| 9.4 | How | Refers to the knowledge of the resources used. If it is for food – how is it collected, cooked and eaten. If for medicine then information such as how is the medicine made, eaten or applied, stored etc |
| 9.5 | Quantity | Refers to the quantity of the bio-resource that is required for processing |
| 10 | Storage | Whether the bio-resource is stored or not? Answer should be collected in Yes or No format |
| 10.1 | How | Refers to the techniques of storing the bio-resources. Information such as whether it is stored in dry/dark places etc. Whether it is mixed with something else while storing etc |
| 10.2 | Duration | Refers to the total time it has to be stored or can be stored |
| 11 | Economic value | Refers to whether there is adequate market or not for the product |
| 11.1 | Sales | Refers to whether the bio-resources or the IK is charged with any fees or not? |
| 11.2 | Place | If it is sold, it refers to the place it is sold like in haat bazar, within the VDC, at the district headquarter, other places, outside of the country etc |
| 11.3 | Quantity | Refers to the total quantity if it is sold. |

Checklist for assessing the contribution of the management practice to sustainable wetland management (Annex 4):

After the list of wetland management practices are sorted, they should be cross-tallied through several indicators.

| SN | Areas | Criteria |
|-----------|---------------------------------|---|
| 1 | Species conservation (SC) | Protection of certain plants and animals for religious, economic or other reasons |
| 2 | Water body protection (WBP) | Wetland bodies are prevented from degradation through plantation, controlling over-harvesting etc. |
| 3 | Catchment Area Management (CAM) | Areas that shed water to the wetland could be managed through plantation, religious forest declaration, abandoning of grazing etc. |
| 4 | Sustainable harvesting (SH) | Certain tools, techniques and knowledge could be there to ensure that resources are harvested such that they available in the long run. |

ANNEXES

Annex 1:

Sample of Prior Informed Consent (PIC) Agreement Form

This agreement is being made for the documentation of indigenous knowledge of local communities in order to conserve and sustainably utilize the biological and genetic resources of wetland founds in Nepal.

In this context, the local _____ indigenous community of _____ Village Development Community (ies) in _____ District showing dependency on _____ wetland is being prepared. The community's wetland related indigenous knowledge and skills will, in no circumstances, without the approval of the community concerned. Use of the knowledge by any interested individual or organization for any purpose (commercial, research, intellectual property protection or others) will be coordinated by GoN in participation of the indigenous community.

Documentation of wetland related traditional knowledge, skills, innovations, technologies and traditions will only be done as per the consent of the community or group/individual within the community.

To accomplish the aforementioned task, we, the undersigned, agree to work with GON.

Representatives:

| Name | Address | Signature | Date |
|------|---------|-----------|------|
|------|---------|-----------|------|

Annex 2:

Sample of the inventory sheet to be used for listing the products being utilized by the local community

| Use category | Local Name | Nepali Name | English Name | Scientific name |
|--|------------|-------------|--------------|-----------------|
| <i>Food</i> | | | | |
| | | | | |
| | | | | |
| | | | | |
| <i>Fodder</i> | | | | |
| | | | | |
| | | | | |
| | | | | |
| <i>Medicine</i> | | | | |
| | | | | |
| | | | | |
| | | | | |
| <i>Tools and Equipments</i> | | | | |
| | | | | |
| | | | | |
| | | | | |
| <i>Housing and agricultural inputs</i> | | | | |
| | | | | |
| | | | | |
| | | | | |
| <i>Energy</i> | | | | |
| | | | | |
| | | | | |
| | | | | |
| <i>Processing and Sales</i> | | | | |
| | | | | |
| | | | | |
| | | | | |

Annex 3:

WIK documentation format (Section A and B)

Part A: Information of the dependent community and the wetland

| SN | Items | Response |
|------|--|--|
| 1 | Name of the wetland | |
| 2 | Area (in Ha) | |
| 3 | Village/ Community Name | |
| 4 | District | |
| 5 | V.D.C./Municipality | |
| 6 | Ward No | |
| 7 | Adjoining VDCs of the wetland | |
| 8 | Name of the dependent communities | |
| 9 | No. of dependent HHs | |
| 10 | Total population of WDC | |
| 11 | Major Flora | |
| 11.1 | Grasses | |
| 11.2 | Herbs | |
| 11.3 | Shrubs | |
| 11.4 | Trees | |
| 12 | Major Fauna | |
| 12.1 | Mammals | |
| 12.3 | Reptiles | |
| 12.3 | Amphibians | |
| 12.4 | Birds | |
| 13 | Major threats to wetland | |
| 14 | Who is involved in the collection of the products (majority)? | Male -----[] Female-----[] Children -----[] Elderly -----[] |
| 15 | Wetland services (livestock bathing, eco-tourism, learning center etc) | |
| 16 | Major Agriculture systems around the wetland | |
| 17 | Major cereal crops around the wetland | |
| 18 | Major Livestock around the wetland | |
| 19 | Main forests types | |
| 20 | Major species found in the forest | |
| 20.1 | Main wild animals | |
| 21 | Map of wetland | |
| 22 | Which particular resources of the wetland are at greater risk? | Plants: Animals: |

Part B: Information about bio-resources and associated IK

| SN | Items | Response |
|------|---|---|
| 1 | Name of Bio-resource | |
| 1.1 | Local Name (Local Language) | |
| 1.2 | Nepali Name | |
| 1.3 | English Name | |
| 1.4 | Scientific Name | |
| 2 | Types | |
| 3 | Unique characters | |
| 4 | Location | |
| 5 | Habitat | |
| 6 | Trend of resource availability (between now and 5 years ago) a. Increasing b. Same c. Decreasing | |
| | | |
| 7 | (Since when in use) Indigenous practices b) > 30 years c) 10-30 years d) < 10 years | |
| | | |
| 8 | Uses (briefly specify) –Food, Medicine, Poison, Religious, Cultural etc | |
| 8.1 | Parts & Products used | |
| 9 | Processing and use techniques (majority) | |
| 9.1 | Who | Male -----[] Female----- [] Children ----- [] Elderly ----- [] |
| 9.2 | When | |
| 9.3 | Where | |
| 9.4 | How | |
| 9.5 | What quantity | |
| 10 | Storage Yes/No | |
| 10.1 | How | |
| 10.2 | Duration | |
| 11 | Economic value | |
| 11.1 | Do you sale? | |
| 11.2 | If yes where? | Local level, outside VDC, Outside district |
| 11.3 | Quantity | |



For further information, please write to:
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Conservation and Sustainable Use of Wetlands in Nepal (CSUWN)
Training Section Building, Second floor, Forestry Complex,
Babar Mahal, Kathmandu
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