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Participatory Rural Appraisal of Local Communities of The South-East Pahang Peat Swamp Forest: Grassroots Involvement in Peat Swamp Forest Conservation

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ABSTRACT

Environmental problems are a common concern, the solution of which requires the active and responsible involvement of different stakeholders, especially people at the grassroots level who are most susceptible to changes in their natural environment. Indigenous communities in many parts of the world are seldom consulted on issues pertaining to rural development and conservation. They often bore the brunt of many ill-thought-out policies which contributed further to their marginalization. Learning from past mistakes and acknowledging the vital role of indigenous peoples in determining policies for their own socio-economic development, the UNDP/GEF funded Peat Swamp Forest (PSF) Project recognised the need for a paradigm shift toward a more participatory approach in the ongoing conservation efforts in the South-East Pahang Peat Swamp Forest (SEPPSF) involving the indigenous Asli Jakun community. The methodology adopted was the bottom-up Participatory Rural Appraisal (PRA) technique which is widely used in developing countries as a tool to encourage local participation, gauge perceptions and learn from local people about their concerns and desires for a more sustainable future. This paper highlights the strategy adopted, outcomes and lessons learnt in the PRA study with respect to the sustainable use of PSF resources by the Asli Jakun in three villages in the SEPPSF.

Keywords: *Participatory, local communities, conservation, indigenous knowledge, sustainable use*

Introduction

The role of local communities in conservation planning has been a subject of debate among conservationists in recent years (Steinmetz 1998). Local communities are essentially regarded as impediments to protected areas (PA)—to be planned around, often through economic incentives to persuade them to change their resource use patterns or behaviour. However, repeated failures in PA management which is founded on the urban ideal of ‘wilderness preservation’ has led to a changing trend of increased awareness of the socio-cultural, economic and environmental costs to local communities, many of whom have long struggled against the expropriation of their resources in the name of conservation (Steinmetz 1998).

In the last three decades, there has been a surge in the use of PRA and related participatory approaches by NGOs, government and aid agencies, which has opened up new ways in which policy can be influenced by those who are poor, weak and marginalized (Holland & Blackburn 1998). PRA is a methodology for action research which comprises a range of techniques, used by outsiders from different sectors and disciplines and local communities alike to better assess problems related to their livelihood and natural resource base and develop their own action plans. Its emphasis is on facilitation through the use of participatory methodology and is a process which aims at reversing the location of control from the external agency or researcher to the villager as the central actor (Umans 1998). The PRA is a vital tool to enhance local participation and serves as a platform for outsiders to learn from and with rural people, about their problems and gaining from indigenous physical, technical and social knowledge.

The United Nations Development Programme (UNDP)—Global Environment Facility (GEF) Project MAL/99/G31 titled “*Conservation and Sustainable Use of Tropical PSFs and Associated Wetland Ecosystems*”, a project to promote the conservation and sustainable use of PSFs in South-East Pahang (Pahang), Klias Peninsula (Sabah) and in Loagan Bunut (Sarawak) used PRA as a tool to promote local participation in the conservation process of four forest reserves (FRs) in the SEPPSF (see Figure 1).

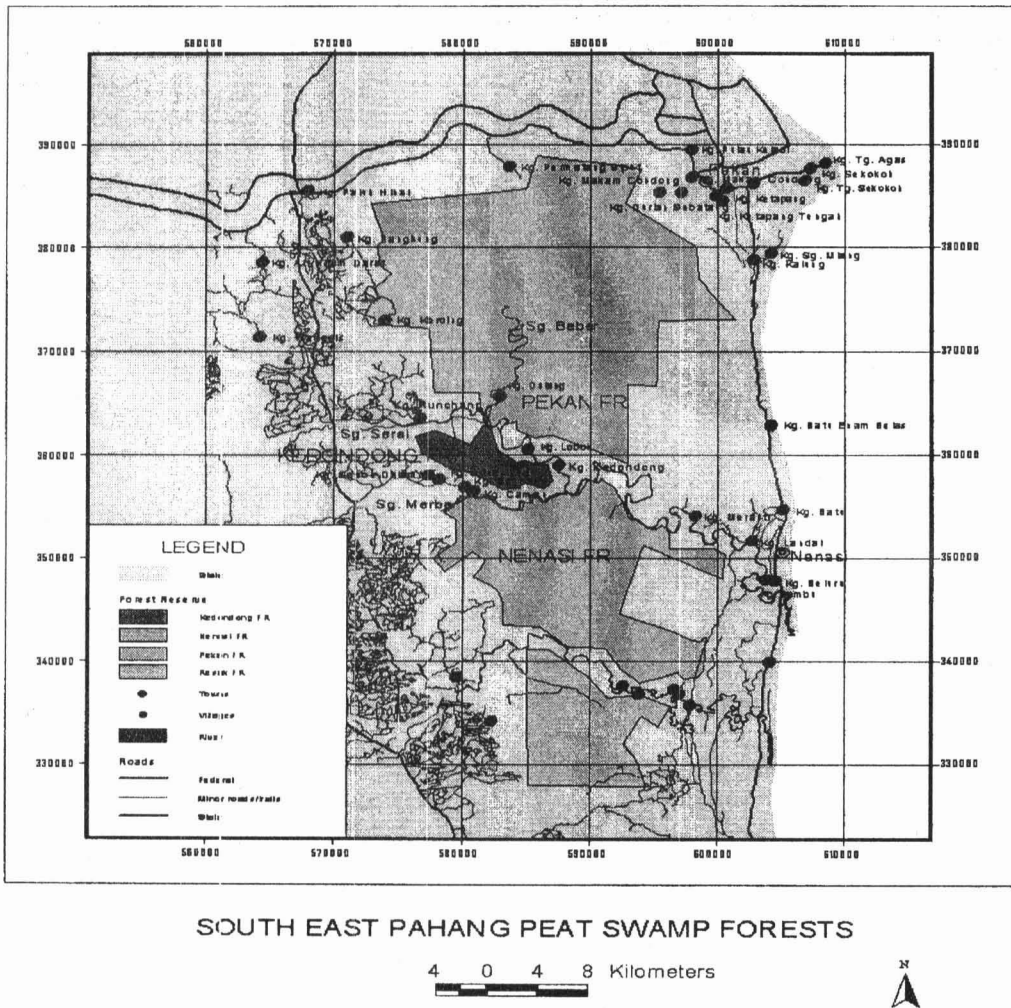


Fig. 1: Location Map of the SEPPSF Showing the Villages Selected in the PRA

The month-long PRA was conducted in February 2005 with the indigenous Asli Jakun communities within and surrounding the SEPPSF. The PRA study focused on three Asli Jakun villages in the Pekan District, Pahang, Malaysia, namely, Kampung (Kg.) Simpai, Kg. Padang and Kg. Selangkong, bordering the Nenasi Forest Reserve (FR) (see Figure 1).

The purpose of the PRA was to encourage local participation in the assessment of the involvement, contribution, practice undertaken, desires and concerns of the Asli Jakun community with respect to the sustainable use of biodiversity resources. The PRA also aimed at gauging their awareness on the importance of the PSFs. Relevant social, economic and cultural aspects of the Asli Jakun were also assessed and a list of flora and fauna deemed important for conservation by the local community produced.

Background of the Asli Jakun

The Asli Jakun, one of 18 sub-groups of the Orang Asli of Peninsular Malaysia are categorised as Proto-Malays and are the descendants of the pre-historic Austronesian (Malayo-Polynesian) who are believed to have migrated from southern China (Yunnan Province) to South-East Asia between 3,000 to 5,000 years ago (JHEOA 2004). Their traditional domain is North Johor and South-East Pahang. The Asli Jakun in the SEPPSF is traditionally animists who practised shifting cultivation as well as foraged for forest produce and fishing as a means of economic sustenance. More than half of the present-day Asli Jakun has shifted away from a subsistence economy and only forage for forest

produce as a subsidiary activity due to the diminishing forest resource base in the PSFs. Many have found employment with logging concessionaires, plantations and the government sector.

The Strategy Adopted

The PRA catered for rapid and progressive learning with conscious exploration, flexible use of methods, improvisation, iteration and cross-checking. The survey team comprised a team leader (outsider) and two research assistants from the local Asli Jakun community. The rationale for engaging the assistance of the local community as part of the survey team was: a) they are familiar with their surroundings and can guide the team leader in observing local customs and moving about in the village; b) they are familiar with their fellow villagers and vice-versa, thus, paved the way for easier data collection from their village folk and c) to empower indigenous youth with basic research skills as well as information and communications technology (ICT) skills (word processing, using spreadsheet, digital and video cameras as well as editing digital images). The youth were trained on-the-job and participated in special training sessions to equip themselves with the necessary skills required for the PRA.

The information objectives of the PRA are two-fold, i.e. the PRA was divided into i) *Survey of biodiversity values of the PA*: This involved obtaining information on local taxonomy (flora and fauna) deemed important to the local community and ii) *Local values/Resource Use*. Data collection for the PRA was conducted in the following ways:

Structured Household Questionnaire Survey

A household survey was conducted using a structured questionnaire. The primary purpose of this survey was to gain baseline information about the local community in the three villages. The questionnaire also served as a tool to elicit answers from respondents with regard to the following components: a) socio-economic characteristics of the local communities studied; b) resource use profile of Non-Timber Forest Products (NTFP); c) local communities' attitudes towards conservation; d) living conditions, utilities and possessions.

Participant Observation

This entailed direct participation in the daily activities, i.e. work and leisure activities of the study population, thus gaining an insider's perspective on different scenarios and situations related to their belief systems and indigenous knowledge. This method was used to gain insight into the daily activity patterns of men, women, youth, children and elders and their resource use patterns, dependence and best practices with respect to the usage of PSF resources. Face to face interviews/focus group interviews (6–8 interviewees per group) were conducted—generally open-ended questions—intended to elicit views and suggestions from the participants. The study team kept a daily journal to record important observations and took notes during interviews which were usually held late in the evenings when the village folk were available for interviews. All information obtained were compiled on a daily basis.

Participatory Mapping and Modelling

Respondents were requested to draw out or model current or historical conditions and subsequently interviewed either individually or in groups, depending on the conditions, based on the map. This technique is useful in gaining an overview of the village structure and environmental conditions in and around the village and to understand the importance of the landscape to the local people. The information obtained from this data collection technique is the location of agricultural plots; land-use patterns such as oil palm plantations or the extent/location of logging activities; location of rivers and streams and important natural resources and the distribution of households (for household questionnaire survey). This information was also used to identify local naturalists (to attend the validation workshop) and sacred sites such as burial grounds and *keramat*.

Guided Field Walks

The PRA team trekked through the PSF, led by local naturalists in all three villages through the PSF trails to observe, listen and identify different land-use patterns or conditions. The team asked questions to identify problems and possible solutions pertaining to the Asli Jakun conservation ethics (sustainable use of biodiversity resources). This method was also used to confirm the base information obtained from participatory mapping and modelling. Most importantly, information on local taxonomy of deep significance to the local community was obtained from local naturalists during the walks.

Folklore, Songs, Poetry, Dance, Intriguing Beliefs and Practices

Attempts were made to analyse folklore, intriguing beliefs and rituals to provide insight into taboos, history and practices which may shed light on the existence of any conservation ethics based on their indigenous knowledge. During the PRA, the only persons who managed to provide insight into traditional beliefs and practices were the shamans, medicine man/woman, and village elders.

Data Validation

Triangulation was the primary method for data validation. Triangulation was done by comparing different data sources, such as household questionnaire survey, group/individual conversations and feedback from two workshops conducted under the PRA and using the data to build coherent justification. The workshops, one for women and the other a general workshop was the highlight of the PRA and was the most important platform to encourage local participation during the PRA. The participants of the workshop were representatives of the three villages who have sound knowledge of PSFs. The primary purpose of the workshop was to encourage participation and to present the findings of the PRA back to the local community as a mean to validate the information obtained. The rationale for having the workshop was to gather villagers with sound knowledge of the PSF ecosystem in an environment where they were able to brainstorm and share with the survey team information which is important to them. The outcome of the workshop is a complete inventory of important flora and fauna for conservation (from the local communities' perspective) together with their individual uses and a comprehensive list of practices, perceptions and desires of the local community with respect to the sustainable use of biodiversity resources.

Outcome of the PRA

It must be noted that it is beyond the scope of this paper to discuss in detail the findings of the PRA. However, important excerpts from the PRA are provided for the purpose of providing an overview of the types of data obtained which is unique to PRAs. The following are some salient points arising from the PRA:

PRA Household Survey Findings

A total of 106 households (30% of the total number of households) from the three villages in the study area were interviewed during the household questionnaire survey conducted during the month-long PRA. A summary of selected household survey findings is provided in Tables 1 & 2.

Table 1: Knowledge Related to the Sustainable Use of PSF Resources.

Issues	Kg. Simpai (%)	Kg. Selingkong (%)	Kg. Padang (%)	TOTAL (%)
Knowledge of existing taboos pertaining to PSF	32	0	57	29
Adhering to taboos pertaining to PSF	31	0	50	27
Ability to make animal traps	26	73	71	40
Ability to make handicraft (straw mats, basket (<i>Lajot</i> , <i>Among</i>))	38	80	86	53

Village	Main Occupation	Full Dependence on PSF Resources (%)	Mean Distance from FR (km)	Mean Household Income (RM)	Water supply	24 hr Electricity Supply
Simpai	Logging (13.2%)					
	Collecting hill forest produce (11.8%)				Well (pump)	Yes
	Collecting PSF produce (7.9%)	33.3	6	700.0		
Selingkong	Collecting PSF produce (61.5%)					
	Agriculture (30.8%)					
	Labourer (7.7%)	33.30	4	300.0	Well	No
Padang	Collecting PSF produce (66.7%)					
	Agriculture (11.1%)	57.10	2	187.5	Well	No

Table 2: Selected Findings from Household Surveys from PRA.

Involvement (Practices Undertaken) Perception and Desires of Local Community with Respect to the Sustainable Use of Biodiversity Resources

In general, the Asli Jakun communities in the study area have a strong desire to conserve PSFs. A total of 99% of the survey respondents are in favour of conservation and believe that they should strive to conserve PSF resources on their own accord. The next segment takes a look at how this may be possible based on existing practices and beliefs of the Asli Jakun.

Indigenous Knowledge—Traditional Practices and Beliefs of the Asli Jakun with Respect to the Sustainable Use of PSF Resources

According to Grenier (1988), indigenous knowledge (IK), also known as traditional knowledge (TK) is 'the unique, traditional and local knowledge existing within and developed around specific conditions of women and men indigenous to a particular geographic area'. IK is basically the understanding of specific elements or factors in the environment, such as plants, animals, soil, water, air, weather and environmental phenomena and the interrelatedness between each of these elements which form the basis of the proper usage of these elements in daily life (Alan 1997). The Asli Jakun has their own IK which has been passed down orally by their ancestors from generation to generation. Traditional practices of the Asli Jakun in the PSF have a flavour of conservation as revealed through the PRA. Table 3 highlights the beliefs and patterns of behaviour related to conservation from the spiritual aspects of the human-environment relationship whilst Table 4 showcases how the Asli Jakun conduct themselves while in the PSF.

Table 3: Prevailing Taboos Associated with PSFs

Taboo	Consequences (According to animistic beliefs)	Interpretation in terms of relevance to conservation
Chopping of trees which are unfamiliar to the individual.	The spirit (<i>semangat</i> in the Asli Jakun language) of the tree may possess the wrongdoer or put a curse on the wrongdoer, causing high fever, vomiting, inability to urinate or manifesting itself in a fit of anger.	Useful in terms of preserving trees whose uses are not yet known to the community, which may contain medicinal properties.
Joking, shouting or talking loudly while in the forest.	The spirit (<i>semangat</i> in the Asli Jakun language) of the tree may possess the wrongdoer or put a curse on the wrongdoer, causing high fever, vomiting, inability to urinate or manifesting itself in a fit of anger.	Useful in maintaining the tranquillity of the PSFs to create a conducive environment for fauna to flourish (curbing noise pollution).
Boisterous speech or poking at the droppings or footprints of wild animals with dangerous weapons.	Wild animals will come to know of their actions and attack the wrongdoers.	Useful in instilling respect for fauna in the forests.
Hunting pig-tailed macaques (<i>Beruk Tunggal</i> in the Asli Jakun language).	It is believed that the spirit (<i>gunik</i> in the Asli Jakun Language) of the animal will possess the wrongdoer.	Useful in conserving this species (Protected under the Malaysian Wildlife Act 1972).
Owls (<i>Burung Pungguk</i>) cannot be hunted indiscriminately. Once killed, the animal has to be used in a wise way, such as in preparing traditional medicine. The same is said of <i>Ikan Buntal Sungai</i> (freshwater fish).	It is believed that the spirit (<i>gunik</i> in the Asli Jakun Language) of the animal will possess the wrongdoer.	To avoid wastage of PSF resources, thus contributing to the conservation of this avifauna.
Chopping down/plucking poisonous plants, e.g. <i>Ipoh</i> tree, <i>Jelatang</i> and <i>Kayu Pokok</i> (lowland dipterocarp forests) and <i>Pokok Beringin Hitam</i> (PSFs).	Each poisonous plant is believed to have a spirit which may possess or cause mischief.	To ensure the well-being of all forest dwellers, humans and animals alike who may be accidentally poisoned.
Ridiculing animals such as tortoises, worms, pig/long-tailed macaques or humans who resemble such animals.	Windstorms or flooding at areas where the action took place	Useful in instilling respect for fauna in the forests.

Table 4: Traditional Practices with a Flavour of Conservation.

No	Description of traditional practices
1	The majority of the Asli Jakun take only what they need for subsistence/or when they need a specific resource, e.g. for house-building/handicraft.
2	They only harvest fruit which are ripe (giving ample time for the young plants to reach maturity, thus conserving the resource).
3	Villagers pluck resources with their bare hands or at the most, with a machete, to avoid destroying other plants in the vicinity and to ensure that they take only the quantity desired.
4	If the resource is high atop a tree, the Asli Jakun will climb the tree to obtain the resource instead of chopping down entire trees for the sake of one resource.
5	Villagers have also learnt from their forefathers to clear the vines surrounding a resource with a machete so as to be sure that they are collecting mature plants.
6	About 94% of the Asli Jakun surveyed use a fishing rod (as opposed to a net or other large fishing contraptions such as <i>lukah</i> or even poison such as <i>tuba</i>) to fish, indicating use for subsistence.
7	The Asli Jakun generally do not waste the PSF resources, especially pertaining to large mammals. The Asli Jakun has specific traps (<i>jerat</i>) for specific animals so as not to kill other animals by mistake.
8	Villagers avoid using <i>tuba</i> (a kind of poison made from plant extracts) to catch fish in the PSF ecosystem.

Impacts of Deforestation and Changes in Land Use on the Asli Jakun

The loss of PSFs due to logging and change of land use for oil palm plantations have had significant impacts on the local people. The responses of the local community are shown in Table 5.

Table 5: Responses from Local Community on the Impacts of Deforestation on their Well-Being.

No	Responses on Impacts from Deforestation
1	Aesthetic value of village compromised—devoid of greenery
2	Reduced source of food and livelihood for villagers—loss of income for many Asli Jakun families who are fully dependent on PSF resources
3	Dwindling forest resources—difficulty in obtaining raw material for handicraft/house-building/medicine
4	Aridification of peat land making it difficult for Asli Jakun to perform sedentary agriculture such as planting of yam
5	Water pollution from fertilizers used in nearby oil palm plantations causing skin irritations to village folk
6	Difficulty in finding fish—interest in fishing as a favourite past time amongst Asli Jakun families waning, thus jeopardizing social harmony
7	Air pollution from open burning or forest fires (from forest-clearing for agriculture/logging) causing haze and respiratory problems to village folk, especially young children
8	Drying up of water via evaporation (due to exposed ecosystem- no longer protected by trees) resulting in: —Loss of fauna such as fish and vegetation —Difficulty in getting water for drinking, bathing and doing daily chores such as washing clothes and plates.
9	Increase in local air temperature and loss of natural shade from the PSF, causing discomfort to village folk

Desires and Aspirations Pertaining to the Sustainable Use of PSF Resources

The Asli Jakun expressed the following desires for the future with respect to the sustainable use of PSF resources (see Table 6):

Table 6: Responses from Local Community on their Desires Pertaining to the Sustainable Use of PSF Resources

No	Local Communities' Desires Related to PSF Conservation
1	For the FRs to cease from being production forests
2	Replanting of trees in the PSF involving the local communities
3	Engage the Asli Jakun as auxiliary forest rangers
4	Engage the Asli Jakun as nature education officers in environmental education campaigns on PSFs
5	PSF reserves to be gazetted as State Park (to be a centre for research on PSF resources)
6	A portion of the PSFs to be turned into a nature education centre, via a smart partnership between the villagers and government or non-governmental organisations
7	The relevant authorities should conduct regular monitoring of PSF reserves and strictly enforce existing regulations and impose fines on non-Orang Asli encroaching the FRs
8	The State Government must inform the village committees regarding any impending logging or development activities as the villagers have the right to know about activities which have potential to alter their lifestyles or impact their lives.
9	That PSFs near the villages be made into ecotourism areas and the local Asli Jakun be given the opportunities to operate ecotourism or work in the ecotourism sector in these areas
10	The Asli Jakun are keen to share their knowledge on PSFs. However, they want help from the government to devise a benefit-sharing mechanism for them to share their knowledge with non-Orang Asli without being exploited
11	Financial and technical aid to initiate cottage industries in Asli Jakun villages as a form of alternative livelihood as well as help to market their products.
12	The creation of a heritage garden by and for the local Asli Jakun community (Kg. Simpai), showcasing traditional medicinal plants and other plants of importance to the livelihood of the local Asli Jakun community

Lessons Learnt

The PRA is a dynamic process in which the techniques used can and should be revised to fit the needs of a particular study. This is the first PRA conducted by the PSF Project in the SEPPSF and as such, there are inevitably various areas for improvement. The lessons learnt from the UNDP/GEF PSF Project are discussed below:

- Indigenous people take time to build rapport and thus reveal vital information after a prolonged period of time. The suggested timeframe of the PRA should be a minimum of three months to fully comprehend the lifestyle and issues surrounding the Asli Jakun.
- There is much emphasis in developing countries on the utilization of IK in resource management to build on existing practices to ensure success of livelihood programs introduced by governments/aid agencies to assist local communities. The PRA, though it included elements of IK, only scratched the surface of the IK of the Asli Jakun, focusing more on their attitudes towards the PSFs (conservation ethics). Since one of the objectives of the PSF Project is to introduce sustainable livelihood projects for the local communities, a survey of the ability of local communities to manage their own resources communally based on their traditional practices and how their IK can be utilized in sustainable livelihood projects should be included in the scope of work of the PRA.
- The PRA in the SEPPSF was not designed to analyse and explore the capacity or training needs of local communities with a view to afford greater empowerment to the local communities to effectively manage their own resources or embark on community sustainable livelihood programmes. The PRA was limited to identifying the communities' desires and perceptions on conservation. A study on the institutional structure of the communities is warranted to enable the PSF Project to effectively introduce projects which are in line with the local communities' interests and capabilities.

Conclusion

Local communities are no longer targets or beneficiaries but rather knowledgeable subjects of their own development, empowered by assisting agencies. Therefore, the way forward in the planning and management of PAs is including local communities in the management of PAs. The PRA is a practical tool to gauge grassroots' perception on management policies and conservation and doubles as a strategy to encourage local participation in conservation. The PRA technique steers away from the outdated top-down approach which reduces local communities to recipients of development interventions and environmental education.

The methodology adopted in the PRA in the SEPPSF is a combination of various participatory techniques designed to involve the local Asli Jakun communities in three selected villages on a more 'intellectual' level with outsiders acting only as facilitators. The main objective for conducting the PRA in the SEPPSF was to learn from local communities about how they want to manage their resources and what they want from the conservation process in their traditional homeland as opposed to the easier option of what the government or assisting agencies can impose on them.

The PRA revealed that the loss and degradation of PSFs is changing the lifestyle of the Asli Jakun in terms of livelihood and gradual loss of their IK of PSFs. The Asli Jakun in the SEPPSF want the PSFs to be conserved as it is their source of socio-economic, spiritual and cultural well-being. They have voiced out against logging or conversion of PSFs to other land-uses within and surrounding the SEPPSF and are willing to assist the government and other relevant agencies in conserving their traditional homeland. They also feel that they can contribute to conservation efforts within their traditional territory in a more significant way and call for opportunities to be given to them to manage their own resources, conduct awareness campaigns or to be employed by relevant agencies involved in the management of PAs. As the holders of IK of PSFs, the Asli Jakun feel that their contribution is of utmost importance to the conservation of PSFs and that they should not be sidelined in the planning and management of PAs in the SEPPSF.

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