



International Community-University Research Alliance (ICURA) in Ghana and Tanzania

FINAL TECHNICAL REPORT

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This report is presented as received from project recipient(s). It has not been subjected to peer review or other review processes.

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This final technical team report was completed by Country Team Leaders (Obour/Djang-Fordjour, and Kahana) and Jones Lewis Arthur. Country Team leaders discussed the report findings with their respective teams prior to submitting them. This Final Technical Report summarizes our results in the five areas of focus: community-university partnerships, research training and development, research and knowledge production, knowledge mobilization activities, and ‘other’ for the five year period of the ICURA-PAPR project.

This project was funded by International Development Research Council (IDRC) and the Social Sciences and Humanities Research Council of Canada (SSHRC) through the International Community-University Research Alliance competition. IDRC largely supported the participation of team members from Ghana and Tanzania and SSHRC largely supported the participation of team members from Canada. This report to IDRC focuses on the work conducted by the Ghanaian and Tanzanian team members and overall results of the collaboration with Canadian colleagues. This report does not discuss in detail, activities and outputs led by Canadian colleagues.

The Research Problem

The Protected Areas and Poverty Reduction Canada-Africa Research and Learning Alliance (the Alliance) seeks to address the challenges of reducing rural poverty and ensuring environmental sustainability through a focus on rural communities and adjacent protected areas in Ghana, Tanzania and Canada. As highlighted in the Millennium Development Goals, alleviating rural poverty and ensuring environmental sustainability are two of the biggest issues facing the planet, and they are fundamentally and inextricably linked – extreme poverty inhibits environmental sustainability and degraded natural environments exacerbate rural poverty. Poverty and sustainability are also complex, multi-faceted issues that demand concerted attention and a variety of approaches to address.

Our Alliance is focussed on one increasingly prominent and controversial approach – the use of protected areas (PAs). Protected areas can and do mitigate biodiversity loss, protect ecosystem function and integrity and generate significant socio-economic benefits at local to national scales. At the same time, some critics argue that calls to increase the number and extent of both marine and terrestrial PAs can lead to the *marginalization* of local communities, increases in human-wildlife conflicts, inequity and flows of economic benefits and costs, the *exacerbation* of poverty, and the *erosion* of support for conservation. As a result, protected areas are at a crossroads.

If PAs are to succeed in reducing poverty and ensuring environmental sustainability, ways must be found to:

- maximize the delivery of equitable economic benefits,
- Reduced human-wildlife conflict,

- Re-conceptualize and improve PA governance, and
- Mobilize existing information between academic researchers, community organizations, visitors and managers.

Our Alliance supported innovative research and learning in each of these four areas. Ghana, Tanzania and Canada share issues of acute poverty in rural communities in close proximity to protected areas that conserve ecologically significant features. As a research and learning alliance, our overarching goals are to enhance conservation efforts, to reduce poverty and to promote the health of socio-ecological systems linked to protect areas in Tanzania, Ghana and Canada.

Objectives

Overall Objective

The overall objective of the Project was to support innovative research and learning on the poverty/sustainability challenges of protected areas that will build capacity and be of direct use to local communities, academics and government agencies.

Specific Objectives

The specific objectives of the Project were as follows:

- To improve curricula, teaching, research capacity at partner academic institutions,
- To train Ghanaian and Tanzanian students at the PhD level to conduct research in the thematic areas,
- To conduct collaborative and comparative research in four thematic areas (i.e. benefit maximization, human-wildlife interactions, protected area (PA) governance and knowledge mobilization, and
- To promote sharing of knowledge and findings from the four thematic areas, resources and expertise among concerned stakeholder(s) within and between partnering countries.

Methodology

The methods we used to advance our objectives stated above include elaboration of four main themes: benefits, wildlife, governance and knowledge mobilization. Within each theme we focussed on opportunities and challenges in terms of delivering economic, social and ecological benefits while minimizing costs. The areas of focus were developed after consecutive collaborative meetings with partners and institutions such as the Ghana Wildlife Division, Department of Wildlife, Ghana, Faculty of Forest Resource Technology (FFRT), Nature Conservation Research Centre (NCRC), Local Assemblies, and communities such as those located near the Mole National Park, Bui National Park, and Avu Lagoon. The selected partners provided an opportunity to explore research questions to guide the ICURA research (Obour,

Arthur, Hammer and Rollins, 2011). The interactions provided the foundation to assess relevant institutions who shared and supported the theme of the ICURA project. The use of the community-university research alliance concept was also instrumental in adopting a Community Coordinator to provide the needed linkage between academic/research institutions and the local communities, where such researches are carried out.

As a result of these fruitful interactions and researches, institutions such as Faculty of Forestry Resources Technology (FFRT), Wildlife Division, MWEKA, University of Dodoma, Kesho Trust, Mole and Bui National Parks, and Avu Lagoon restoration sites (Appendix D,E,F) were selected to provide research inputs for the PhD students (Arthur, Nsiah-Gyabaah, and Nsiah, 2011). Consequently, the 3 PhD students from Ghana adopted each of the key Protected Area/Nature Conservation Areas that is, Bui, Mole, and Avu as their study sites whilst the Tanzanian PhD students adopted sites including Saadani and the Serengeti National Parks. The meetings also laid the foundation for enhanced research, knowledge mobilization and governance capacity for the long-term. Apart from doing research in Ghana, Tanzania and Canada, workshops were also organized for the researchers, students, faculty and community leaders in the respective countries. In addition, international workshops were organized to provide training for faculty and PAPR related students in Canada, Tanzania and Ghana.

The methodologies applied to the ICURA project helped to improve the working and research collaboration between academic institutions and local communities. The approach was instrumental in identifying the key needs of communities such as improving access to livelihood opportunities available to households in communities living near PAs, and providing relevant competence training for many households in such communities. The hitherto university-community gap that coupled university-community engagements has now been reduced dramatically as a result of the frequent and relevant university-community interactions promoted through the ICURA concept. The future for university-community partnership have become brighter due to the pragmatic, and community centred approaches to academic research applied in the methodologies adopted by the ICURA team, to guide research and interaction between universities and project beneficiary communities.

Project Activities

Community University Partnerships:

In Ghana, the ICURA team (Appendix C) developed the Ghana Research group through regular country team meetings with other universities, and country groups that included Non Governmental Organizations (NGOs), and governmental institutions such as the Wildlife Division and local Assemblies e.g. Municipal and District Assemblies. Such meetings also led

to the development of the ICURA study sites to cover Avu Nature Conservation Area, Bui and Mole Protected Areas, and communities nearby parks.

A subsidiary research group named the Brong Ahafo Research and Extension Centre (BAREC) used the opportunity to also explore the PAPR concept with the Catholic University of Ghana, Fiapre which ultimately led to the signing of an MOU between the Catholic University of Ghana and Sunyani Polytechnic. The MOU was instrumental in the promotion of research in Protected Areas, and reduction of poverty in rural communities. Again, discussions were carried out with faculty and students of Sunyani Polytechnic and FFRT resulting in several students (Appendix B) undertaking research in the ICURA thematic areas such as, impacts of Bui Dam on livelihoods of resettled communities around Bui National Park (BNP). The interactions also led to meetings with the management of Brong Ahafo Wildlife Division that led to the publication of a research paper on causes, effects, frequency of occurrence and management of wildfires in PAs in Brong Ahafo Region (Afrifa, 2010 published in BAREC, 2010). More so, the collaboration between the academic institutions and local communities led the Larabanga Ecotourism Board to provide support in terms of accommodation, feeding, park fees, and guiding tours for VIU field schools in Ghana. Other PAPR researchers have created opportunities to improve community access to information from research institutions such as the Universities and Polytechnics. These include Jones Lewis Arthur who has created a community liaison committee that conducts and supervise the collection of research data in communities around BNP, and Andrew Agyare who has formed a local committee to provide support for communities around CREMAs. Emmanuel Acquah has also established local community groups to project the needs and interest of communities such as Mognori.

The ICURA Tanzania team in conjunction with field visits by the international team members, met and developed a Memorandum of Understanding that helped to provide a good direction for the ICURA project, define the relationships among ICURA partner organizations, and also identify the different roles of the various actors in the ICURA programme. The final Memorandum of Understanding produced was signed by all three PAPR organizations (College of African Wildlife Management (CAWM)-Mweka, University of Dodoma, and the Kesho Trust in November 2009.

Partnership agreements were developed with local communities during Field visits to research sites, and direct meetings with the village committees in August, 2009. PAPR team members from Canada, Ghana and Tanzania participated in the visits. The visits provided important opportunities for the international ICURA team to familiarize with the ICURA study sites and also develop community relationships with the international team. For the village committees and residents, it was an important opportunity to learn about the programme and how these communities could be integrated to enjoy the potential opportunities to be unearthed through the ICURA project. The interactions with the communities provided important insights into the

issues and challenges that communities face, including the impacts of PAs on livelihoods of communities nearby protected areas.

Similar community-university meetings held to project the ICURA concept included an international workshop in Arusha and at Mweka on 17th to 18th June 2011 and 27 June respectively to discuss the progress of ICURA, fund management, reports, research issues and collaborations with project partners. Knowledge Mobilization workshop that drew participants from Canada, Ghana, Tanzania (University of Dodoma, CAWM-Mweka, Kesho Trust, Tanzania Wildlife Research Institute, and Wildlife Department), were also held at CAWM-Mweka-Tanzania on 29th July 2010. These meetings led to the development of activity plans and strategies through interactions with ICURA team members of Mweka, UDOM, Kesho Trust, and project members from Ghana and Canada.

Several other meetings were held for partner institutions such as, the meeting between the College of African Wildlife Management, Mweka and Dodoma University in November, 2009. These meetings led to the collection of socio-economic data on Saadani and Serengeti National Parks. Such meetings and collaborations also involved the Tanzania Wildlife Research Institute (TAWIRI) which subsequently led to the provision of research permit clearance (a critical requirement for undertaking research in PAs in Tanzania) to conduct research in Saadani and Serengeti National Parks (Appendix G). The permit was one critical step that provided the needed clearance for the PhD students to undertake their research in selected study sites in PA areas in Tanzania.

Other important meetings included the ICURA executive committee (Annex 1) meeting on 13/05/2010 that led to the discussion on the ICURA progress report of activities done on the first year of the project, work plan for financial year 2010/2011, preparation for PhD students, plan for advisory committee meetings, and deliberation on the preparation for knowledge mobilization workshop.

Other attempts at University-Community collaboration led to a knowledge mobilization workshop held at CAWM in late July, 2010 that brought together many important stakeholders, including the Canadian team members led by L. King [Co-Applicant] and L. Robinson [Post-Doctorate project position]; B. Downie [Co-Applicant] of The Kesho Trust; L. Wapling [Advisory Committee member and researcher]; D. Lumala [Community Outreach Coordinator and researcher]; K. Clyde [Senior Research Associate]; E. Mturi [Serengeti Farmers Association (SEFA)]; and A. Abdallah of [Saving African Nature (SANA)]. The meetings led to the development of a better understanding of the meanings and dimensions of knowledge mobilization, and planning knowledge mobilization activities to support the future development of the ICURA concept.

In April, 2011, Obeid Mahenya and Elibariki Shilla met with Mweka students to introduce them to the Protected Area and Poverty Reduction (PAPR) project as well as where they fit exactly in the project, particularly research projects for students. This led to several students undertaking project work in ICURA related fields (Annex A and B).

Other meetings involving park management and some ICURA researchers i.e. P. Dearden and B. Downie took place on June 3rd, and 29, 2011. The parties that met included lodge operators and chief Park warden in Serengeti National Park. The meetings led to discussions regarding the relationship with park management, visitors experience, staff management, training and development, management issues, community relationships, tourism management, relationship with commercial operators, and wildlife movement, interaction with communities and influence of climate change. The output was a better park, researchers, and community relationship that provided important opportunities for knowledge mobilization and research involving ICURA researchers and stakeholders in protected area management.

Other methodologies applied in the ICURA project in Tanzania was the use of Community Coordinators to arrange and organize meetings that brought academia to the communities. Community coordinators established local community committees as a focal point for project interaction – this was one of the results of the knowledge mobilization workshop. Such visits included those organized by the University of Dodoma (UDOM) team to villages adjacent to both Saadani and National Park. Such meetings have improved the relationship and understanding of PAPR activities. The research involving graduate students from UDOM will continue to strengthen the relationship with local communities and district authorities. Community Coordinators were also instrumental in organizing community meetings to integrate Post-Doctorate researcher Lance Robinson and Leslie King to the Community adjacent to Serengeti and Sadaani National Parks. Lance Robinson and Elibariki Shilla were also supported by the Community Coordinators to visit Tanzania Research Institute, African Wildlife Foundation (AWF), Frankfurt Zoological Society, Serengeti National Park and Tanzania National Park headquarters at Arusha.

The Kesho Trust also applied a concept that helped to developed relationships with local community based organizations, and also assisted such organization in the coordination of community relationships, support researchers, and engage the communities in research and knowledge mobilization activities. As a result, places in the Serengeti District study area had the Serengeti Farmer Association [SEFA] becoming the local partner while in the Saadani National Park study area, Saving African Nature [SANA] became the local partner.

Research Training and Development

Several students and faculty were trained through the support of the ICURA project. For the period of the ICURA project students were trained at the Doctoral, graduate and undergraduate

levels in institutions in partner countries that is Ghana, Tanzania, and Canada (Table 1, ANNEX A and B)

Cumulative list of research outputs by type for academic and non-academic participants

Table 1: List of students and postdoctoral Researchers

	STUDENTS	
Paid	# at (name each university, if more than one)	# at Canadian universities
Undergraduate	University of Dodoma-6	
Masters	University of Dodoma-3	1 at Vanvouver Island University
Doctoral		6 at University of Victoria
Postdoctoral		
Unpaid		
Undergraduate	22 at Sunyani Polytechnic-Sunyani, FFRT-Sunyani, CAWM-Mweka , 6 at UDOM-Dodoma	
Masters	Brandes university-Boston,-1	
Doctoral		
Postdoctoral		

Table 2: Main Research Clusters and Lines of Work

Project Lead/supervisor	Project title	Specific project-level research objectives	Outputs and/or notable results
PA Governance			
Phil Dearden, Rick Rollins, Ann Stahl, Grant Murray / Andrews Agyare	Polycentric Governance and Socio-Ecological Performance of Community Resource Management Areas in Ghana	1. To examine the governance system in Ghana in regards to CREMAs at the regional, district and local levels, including institutions, important actors (centres of power) and the multiple, cross-scale linkages between them (or lack thereof) 2. To characterize the desired and perceived outcomes both between different CREMAs and between communities within the same CREMA 3. To assess variability in desired and	1. PhD Dissertation 2. Three research papers (Agyare et al., 2013a; Agyare et al., 2013b; Agyare et al., 2013c)

		perceived outcomes both between different CREMAs and between communities within the same CREMA 4. To make recommendations for improved governance	
Phil Dearden, Rick Rollins, Grant Murray, Marlea Clarke// Alex Kisingo	Governance of Ecosystem in the Serengeti Ecosystem, Tanzania	1. To evaluate the effectiveness of PA governance as perceived by respondents (stakeholders) using a quantitative approach 2. To explore different approaches to PA governance on the Serengeti ecosystems, and to examine the effectiveness of each form of governance, as perceived by communities (households) 3. To examine conservation and social outcomes of PAs in the greater Serengeti ecosystems, and to relate these findings to PA governance structures, particularly relationships between different actors (linkages)	1. PhD dissertation 2. 3 research papers (Kisingo et al., 2013a; Kisingo et al., 2013b; Kisingo et al., 2013c)
Human-Wildlife Conflict			
T.K Djang-Fordjour and Samuel Obour	Community participatory-key informant interviews, community cafes, workshops	Fate of wildlife as the dam floods the park. Objective: 1. Assess types of wildlife flooded by dam 2. Examine how wildlife will be managed as Bui dam floods wilderness. All wildlife including the hippos face imminent extinction as a result of the serious poaching by foreigners. This can be reversed by a rapid response from the National Security Council. Hippos and other wildlife must be relocated into a safe haven as early as possible. Tourism potential at BNP is under serious threat as a result of the near extinction of the wildlife.	1. Paper (Djang-Fordjour and Obour (2013a).

Prof. T.K Djang-Fordjour/ Samuel Obour	Community participatory-key informant interviews, community cafes, workshops	<p>Social implications of relocation of original fisher-folks.</p> <p>Objective:</p> <ol style="list-style-type: none"> 1. Investigate which communities were relocated Examine community access to livelihood resources 3. Assess whether relocation has improved resources available to household <p>It is hoped that due to these developments in the social activities at the BNP, the Brong Ahafo Regional Security Committee, the National Security Council, the High Court and the Appeals Court will expedite action on the matter.</p> <p>The earlier the six (6) households and their ‘rebels’ are forced out of the BNP, the better it will be for social cohesion and harmony</p>	1. Paper (Djang-Fordjour and Obour, 2013b).
Prof. T.K Djang-Fordjour/ Samuel Obour	Community participatory-key informant interviews, community cafes, workshops	<p>Endangered Fish and Fishing Communities</p> <p>Objective:</p> <ol style="list-style-type: none"> 1. Investigate fish species endangered by the dam 2. Assess the impact loss of fish stock to livelihoods of fishing communities <p>The continuous existence of the ‘rebels’ from neighbouring countries can lead to possible straining of the cordial relationships between Ghana and her neighbours</p> <p>Security intervention is urgently needed to save the park</p>	1. Paper (Djang-Fordjour and Obour, 2013c).
Prof. T.K Djang-	Community	Current Situation of Dam Construction	1. Paper (Djang-

Fordjour/ Samuel Obour	participatory-key informant interviews, community cafes, focus group discussion, workshops	<p>and Livelihood Activities</p> <p>Objective:</p> <ol style="list-style-type: none"> 1. Examine various household Livelihood activities impacted by dam 2. Assess the effect of dam on household access to community. <p>Laws must be strictly enforced in fishing and hunting in BNP.</p> <p>Landing site for fisher-folks must be completed as early as possible to ensure security in fishing and environmental management (women washing directly at the banks of the river, thus, pouring detergent into the river is injurious to marine life.</p>	Fordjour and Obour, 2013d).
Phil Dearden, Rick Rollins, Ann Stahl, //Emmanuel Acquah	Human-wildlife interactions, Nature Based Tourism, and Protected Area Management: A case study of Mole National park and the Adjacent Communities in Ghana	<ol style="list-style-type: none"> 1. How do human-wildlife interactions impact on nature-based tourism in Mole National Park and in nearby communities 2. How do adjacent communities perceive the concerns and benefits of living near Mole National Park, and what factors explain the differences in perception of these concerns and benefits 3. How do adjacent communities perceive wildlife impact, and how are the perceptions of wildlife shaped by culture, CREMA involvement, and a community's distance from the park 	<ol style="list-style-type: none"> 1. PhD Dissertation 2. 1 research paper (Acquah et al., 2013)
H. Cummings D.G. Reid//Wanzirai Muruvi	The community poverty scan and asset-based approach to poverty reduction.	H. Cummings D.G. Reid//Wanzirai Muruvi	1. Book (Reid and Muruvi, 2011)
Kwasimila/ Nora Mdee	Assessment of Human Wildlife Conflicts in Western	Kwasimila/ MS Nora Mdee	1. Dissertation (Mdee, 2011)

	Serengeti		
Kwasimila / Chacha Matiko	Assessment of factors limiting access to conservation benefits in western Serengeti	Kwasimila / Chacha Matiko	1. Dissertation (Matiko, 2011).
Costs and Benefits of PAs			
Phil Dearden, Rick Rollins, Ann Stahl, Grant Murray // Jones Lewis Arthur	Living with the Bui Dam; Implications for Household Livelihoods of resettled Communities around Bui National Park (BNP), Ghana.	<ol style="list-style-type: none"> 1. To examine the perceived impact of Bui dam on the livelihoods of resettled communities nearby Bui National Park (BNP), and whether perceptions of climate change, social change, land tenure, and the presence of BNP can shape perceived dam impacts for these resettled communities, using a qualitative approach. 2. To evaluate the perceived impact of Bui dam on capital assets of resettled communities nearby Bui National park, and whether ethnicity, age, gender, and livelihoods can influence dam perceived impacts, using a quantitative approach. 3. To explore how Bui dam impact on community competence, including impacts on traditional leadership and community roles in the management of Bui National Park, using a quantitative approach. 	1. PhD Dissertation-ongoing
Phil Dearden, Rick Rollins, Leslie King // Baker Masuruli	An Evaluation of Benefits and Costs of Tourism to conservation and communities adjacent to protected Areas	<ol style="list-style-type: none"> 1. What is the supply system for NBT in the Serengeti ecosystem? 2. How do the management plans allow for and guide tourism in the Serengeti ecosystem? 3. How does the NBT supply system function to distribute the flow of costs and benefits to conservation? 4. How does the NBT supply system function to distribute the flow of costs 	1. PhD dissertation

		and benefits to communities?□	
Rosaline Canessa, Leslie King, Eric Roth// Enock Makupa	Effectiveness of Ikona Wildlife Management Area in Promoting Conservation and Rural livelihood	1. To examine local community members' and wildlife conservation experts' perceptions of livelihood benefits attributed to Ikona WMA in the study area 2. To assess local community members' and wildlife conservation experts' perceptions of the conservation impact attributed to Ikona WMA as an example of Community-Based Natural Resource Management (CRNRM) in the study area, and suggest areas for improvement.	1. PhD dissertation 2. 3 research papers (Makupa et al., 2013a; Makupa et al., 2013b; Makupa et al., 2013c).
Francis Kinangwee Paabi (SPoly)/ T. A. Kusi-Appiah (TAKA)	Key informant interviews, group discussions	How crop destruction by wildlife affects the incomes of farmers in the fringing communities of the Bui National park: A case study of Bui and Battor-Akainyakrom villages	1. Thesis (Kinangwee, 2012)
Gadawuye John (SPoly)/ T. A. Kusi-Appiah (TAKA)	Key informant interviews, group discussions	Assessing the traditional roles and practices in wildlife conservation in the communities fringing Bui National Park	1. Thesis (Gadawuye, 2012).
Daniel Fei (SPoly) / T. A. Kusi-Appiah (TAKA)	Key informant interviews, group discussions	A study of human and wildlife interactions in Bui and Battor-Akainyakrom communities of the Bui National Park	1. Thesis (Fei, 2012).
Knowledge Mobilization			
Kwasimila/Matiko Emmanuel Chacha	Questionnaire, key informant interviews	Access to conservation benefits in western Serengeti	1. Thesis (Kwasimila and Chacha, 2010)
Mojongo Chambi/ Omoury Chambegga	Questionnaire, key informant interviews	Analysis on the economic impacts of elephant crop destruction to communities adjacent to Protected areas. A case study of Saadani National Park	1. Thesis (Chambi and Chambegga, 2010)
Msowele lazaro/ Obeid Mahenya (CAWM-Mweka)	Questionnaire, key informant interviews	Effective methods of disseminating tourism information to local communities adjacent to protected areas. A case study of Saadani National Park	1. Thesis (Lazaro and Mahenya, 2010)
Justin mwabuki/ Ladislaus Kahana	Questionnaire, key informant	Knowledge mobilization plan with local communities adjacent Saadani National	1. Thesis (Mwabuki, Kahana and Mahenya,

& Obeid Mahenya	interviews	Park	2010)
Andrew Agyare, Donna Sherperd	CREMAs	CREMAs and conservation outcomes	1. Report (Agyare and Sherperd, 2012).
Andrew Agyare/kwame Ampadu-Sasu	Capacity building in knowledge and skills that supports community conservation and poverty reduction efforts. Trained community members will put in 8 groups of 5 members and supplied with 2 beehives each and other equipment according to the groups	1. 40 members of local community were trained and equipped in modern beekeeping enterprise 2. BCA provided community members with alternative livelihood option to reduce overdependence on the natural resources in and around the park	1. Report on Community Action plan (Agyare and Ampadu-Sasu, 2012)
Emmanuel Acquah/Kwame Ampadu-Sasu	Knowledge Mobilization Workshop in Mole National Park	Best practices in; 1. Animal detraction and enhancement 2. Wildlife feeding 3. Waste management 4. Accommodation 5. Waste management 6. Crop depredation concerns 7. Crop raiding reportage 8. Compensation	1. Report on Community Action plan (Acquah and Ampadu-Sasu, 2012a)
Emmanuel Acquah/Kwame Ampadu-Sasu	Community Tourism Management and Knowledge Mobilization Workshop in Mognori	Best practices in: 1. Crop depredation by wildlife 2. Livestock attack by wildlife and 3. More business opportunities 4. Ecosystem services 5. Public attraction to the community 6. Guarding farms 7. Farm tours	1. Report on Community Action plan (Acquah and Ampadu-Sasu, 2012b)
Emmanuel Acquah/Kwame	Alternative Livelihood and Knowledge	Best practices in; 1. How to improve community	1. Report on Community Action

Ampadu-Sasu	Mobilization Workshop in Kananto	livelihoods through improvements in loss of farmlands, crop deprivation and access to collect Non-Traditional Farm Products	Plan (Acquah and Ampadu-Sasu, 2012c)
Emmanuel Acquah/Kwame Ampadu-Sasu	Bushfire Management Workshop and Knowledge Mobilization in Jelinkon	Knowledge mobilization in; 1. How to attract the bushbuck into the community 2. Desire to develop tourism in the community and 3. Crop deprivation by wildlife	1. Report on Community Action Plan (Acquah and Ampadu-Sasu, 2012d)
Bruce Downie	Tengwe Community Forest Tourism	1. Alternative revenue was generated to address poverty concerns in the community 2. Communities were able to identify their priorities, potentials and needs 3. Members of community gained knowledge in preparing an action plan and development of proposal	1. Report on Community Action plan (Downie, 2012a)
Bruce Downie	Interpretation of Cultural Tourism at Sadaani	1. Alternative revenue was generated to address poverty concerns in the community 2. reflects the priorities of the community guide and support research and message development for community tour 3. Community participants were trained	1. Report on Community Action plan (Downie, 2012b)
Bruce Downie	Chicken Rearing Project at Mkwaja	1. alternative revenue was generated to supports and address poverty concerns in the community 2. Participants gained insights into preparing an organizational structure and business plan, defining and implementing inputs to initiate business.	1. Report on Community Action plan (Downie, 2012c)
Abiud Kaswamila/ MS. Joan Tang'are/Agustino Mwakipesile	Establish data base for referencing purposes; creation of awareness about PAPR activities	Socio-economic profile of the PAPR-Tanzania study sites	1. Research report (Kaswamila, Tang'are and Mwakipesile, 2010).

	among communities and district administration		
Abiud Kaswamila/ MS. Joan Tang'are/Agustino Mwakipesile	Interviews to Document study sites for use by PAPR researchers	GIS mapping of two villages One village map in place showing PAPR study sites i.e. Serengeti and Saadani National Parks.	1. Map (Kaswamila, Tang'are and Mwakipesile, 2010).
Ms. Norah Mdee Mr. Peres Magiri Mr. Chacha Matiko	Discussions, seminar	Fill knowledge gap related to PAPR themes and enable PAPR to evolve and expand Research proposal development for graduate students	1. Research reports (Mdee, Magari and Matiko
Ladislaus Kahana and Elibariki Shilla	Interviews, group discussion, questionnaire	Social–economic data on Saadani, Mkwaja and Matipwili villages	1. Research report (Kahana and Shilla, 2010).
Abiud Kaswamila, Ms. Elizabeth Mbwana and Augustine Mwakipesile	Interviews, group discussion, questionnaire	Social–economic data on Nyichoka and Rwamchanga villages in Serengeti District	1. Research report (Kaswamila, Mbwana and Mwakipesile, 2010).
K. Clyde	Interviews, group discussion, questionnaire	Understanding wildlife corridors and their implications for communities [focus on Saadani study area]	1. Research report
Arthur, Jones Lewis, Ampadu- Sasu, Kwame	Interviews, group discussions	Needs assessment meeting with representatives of the resettled communities around BNP	1. Report on Community Action plan (Arthur and Ampadu-Sasu, 2012)
Arthur, Jones Lewis	Interviews, group Discussion	Familiarization visit to sample research communities, contact key informants to arrange for interview schedules, and also brief potential participants of the objectives of his research	1. Report on Knowledge Mobilization (Arthur, 2013a).
Arthur, Jones Lewis	Interviews, Questionnaires	Conduct key informant interviews and research survey for his PhD research	1. Report on Knowledge Mobilization (Arthur, 2013b).

Research and Knowledge Production

Table 3: Research and Knowledge Production:

Type	Total number of Research Outputs
Journal Articles (published / accepted)	-
Journal articles (in process)	13
Conference Papers	22
Presentations (non-academic)	50+
Books	1
Book Chapters	-
Newspapers / other media	-
Theses	
Master's completed	4
Master's in progress (as of May 2015)	1
PhD completed	5
PhD in progress (as of May 2015)	1

Summary of PAPR Outcomes

The Protected Areas and Poverty Reduction research in Ghana and Tanzania has been instrumental in providing important pathways to promote research and development for academic institutions and local communities. Some of the important outcomes of PAPR in Ghana and Tanzania include;

(a) Research

Research has become more acceptable and applicable to local communities. The Alliance between universities and communities as projected by PAPR, has increased the awareness within academia to undertake research that involved the inputs and support of local communities. By this, the critical needs of local communities are incorporated into the objectives of academic research through consultations that involve traditional authorities, village chiefs and elders, as well as women and the youth.

A long list of researches and publications have been derived from the PAPR project (Tables 1, 2 and 3). A number of PAPR researchers have also been provided with some levels of funding to attend and present papers at both local and international research conferences. Many of the graduate and undergraduate students have also completed their studies and submitted a number of dissertations with the support and funding from PAPR. Many of such students also benefited

from the rich experience and supervision of seasoned researchers from academic institutions in Ghana, Tanzania and Canada (see Table 2, and Appendix A and B).

(b) Partnership

In many of the PAPR researches, the people in the local communities were involved in the research as active participants who provided relevant hands-on indigenous knowledge, engaged in data collection processes, and also had the first-hand opportunities to review and critique the research outputs from academia. This contribution has also helped to improve the level of partnership between academia and local communities since there is now the collective ownership of researchers. The Alliance also helped to promote sharing of knowledge, resources and expertise between academic and non-academic partners.

Again, the PAPR research has contributed immensely to reduce the mistrust, and research fatigue that previously existed within academia and communities. Currently, people in the local communities are able to trust researchers from the academic institutions, because people have come to realise that researches carried out in local communities are mainly carried out to improve the social and economic conditions in the local communities. In many cases too, people in the communities have served and gained experience as research assistants and to provide support for researchers that come from the academic institutions to gather and analyse research data from their communities.

(c) Training

The PAPR projects in Ghana and Tanzania has trained six (6) PhD students, a number of Masters students, and a sizeable list of students in degree and non-degree programmes (Appendix A and B). All the PhD students and a number of the Masters students received training in Universities in Canada, that is, University of Victoria and Vancouver Island University. Other students mostly undertaking undergraduate and diploma programmes, were supported by PAPR to complete their dissertation in academic institutions in their host countries.

A number of faculty and PAPR researchers from Ghana and Tanzania benefited from training received from conferences, workshops, seminars, field works, and online correspondence in Canada, Ghana and Tanzania. In many cases, PAPR provided the funding for these activities through the Social Science and Humanities Research Council of Canada (SSHRC) and the International Development Research Council (IDRC).

In many PAPR host institutions in Ghana and Tanzania such as, Sunyani Polytechnic, Faculty of Forestry Resources Technology (FFRT) of the Kwame Nkrumah University of Science and Technology (KNUST), University of Dodoma (UDOM), and the College of Africa Wildlife Management (CAWM), PAPR research teams provided research and other training in areas such

as poverty reduction, livelihood studies, research methodology, and writing of dissertation for both faculty and students.

Overall Assessment

Overall, the PAPR project has served a good purpose of promoting international community and university research alliance for partner countries of Ghana, Canada and Tanzania as well as the academic institutions and local communities in the respective partner countries. The research has helped to unearth the hitherto unknown research potential of many communities such as, the use of indigenous knowledge. In effect, PAPR has helped to debunked the misconception that " a good research can only come from academic institutions", because of the immerse contribution that people in local communities bring to bear on researches initiated and carried out by people in academic institutions.

Aside the success stories of the PAPR concept, some challenges were encountered in the 'journey' of carrying out the project. Key amongst the challenges was the 'road' to gaining the trust of people in local communities. The conception in many of these communities centred on the misconception that research only benefits the researcher/ research institution and for that matter, researchers and the institutions of higher learning. To overcome the challenge we adopted the approach of "living the life of people in the local communities". Researchers stayed in the local communities, enjoyed their livelihoods and daily activities, and developed the trust of the people.

In some cases, researchers had to work through the traditional authorities, chiefs, elders, and opinion leaders to build trust with people in the communities since such important personalities command the authority and hold the trust of the people. Ignoring these key personalities would have been fatal and probably broken the thin line of trust that exists between people in the communities and the "unknown researcher" from the academic institutions.

Working through local partners such as the universities, governmental (e.g. Assemblies) and Nongovernmental Organizations (NGOs) will lessen the potential challenges that an international partner may face in establishing and carrying out academic research, including the PAPR project that involved local communities (Obour, Hammer, Arthur and Rollins, 2011).

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Appendix A: List of Graduate Students Supported by PAPR

Student	School	Project	Supervisor
Andrews Agyare	UVIC	Polycentric Governance and Socio-Ecological Performance of Community Resource Management Areas in Ghana	Phil Dearden, Rick Rollins, Ann Stahl, Grant Murray
Emmanuel Acquah	UVIC	Human-wildlife interactions, Nature Based Tourism, and Protected Area Management: A case study of Mole National park and the Adjacent Communities in Ghana	Phil Dearden, Rick Rollins, Ann Stahl
Jones Lewis Arthur	UVIC	Living with the Bui Dam; Implications for Household Livelihoods of resettled Communities around Bui National Park (BNP), Ghana.	Phil Dearden, Rick Rollins, Ann Stahl, Grant Murray
Wanzirai Muruvi	VIU	The community poverty scan and asset-based approach to poverty reduction.	H. Cummings D.G. Reid
Joy Sammy	VIU	Post-doctoral fellow researching on governance and community conservation	
Nora Mdee	Social Sciences - UDOM)	Assessment of Human Wildlife Conflicts in Western Serengeti	Kwasimila
Chacha Matiko	(Social Sciences - UDOM /	Assessment of factors limiting access to conservation benefits in western Serengeti	Kwasimila
Peres Magiri	Social Sciences - UDOM /	The contribution of Ikoma-Nata (IKONA) WMA on livelihood	Kwasimila
Peres Magiri	Social Sciences, geography dept) - UDOM	Assessment of the performance of Ikona WMA	Kwasimila
Matiko Emmanuel Chacha	Social Sciences, geography dept) -	Access to conservation benefits in western Serengeti	Kwasimila

	UDOM		
Nora mdee	Social Sciences, geography dept) - UDOM/	Assessment of the effectiveness of non-lethal methods in controlling human-elephant conflicts in Serengeti District	Kwasimila
D. Lumala	[Ford Foundation Fellowship; also project support through PAPR fellowship] (Brandes University, Boston, MS)	Youth engagement in environmental management – utilizing the media of community radio – using a case study from the Serengeti study area	
Baker Masuruli	(University of Victoria)/	An Evaluation of Benefits and Costs of Tourism to conservation and communities adjacent to protected Areas	Phil Dearden, Rick Rollins, Leslie King
Enock Makupa	(University of Victoria)/	Effectiveness of Ikona Wildlife Management Area in Promoting Conservation and Rural livelihood	Rosaline Canessa, Leslie King, Eric Roth
Alex Kisingo	(university of Victoria)/	Governance of Ecosystem in the Serengeti Ecosystem, Tanzania	Phil Dearden, Rick Rollins, Grant Murray, Marlea Clarke

Appendix B

List of Undergraduate Students Supported by PAPR

School	Project Lead/supervisor	Project title	Specific project-level research objectives	Outputs and/or notable results
Sunyani Polytechnic	Francis Kinangwee Paabi / T. A. Kusi-Appiah (TAKA)	How crop destruction by wildlife affects the incomes of farmers in the fringing communities of the Bui National park (BNP): A case study of Bui and Battor-Akainyakrom villages	1. Assess the extent of involvement of wildlife in crop destruction 2. The estimated income of farmers from crop destruction by wildlife 3. The role of the park in protecting wildlife crop damage	1. crop damage especially by Mcaques increased after establishment of the park in 1993 and subsequent implementation of the forest and nature conservation Act of 1995.
Sunyani Polytechnic	Francisca Yaa Boakyewaa / T. A. Kusi-Appiah (TAKA)	Exploring the benefits of tourism activities in Bui and Battor-Akainyakrom villages of Bui National Park	1. Assess the physical benefits the communities derive from the management of the park. 2. Assess the benefits from the tourism arrivals	1. Park is woefully resourced. 2. Communities are also impoverished and also lack most of the basic amenities and utilities that would attract tourists and also to keep them within the communities.
Sunyani Polytechnic	Gadawuye John / T. A. Kusi-Appiah (TAKA)	Assessing the traditional roles and practices in wildlife conservation in the communities fringing Bui National Park	1. Assess the means to strengthen the traditional systems to make them more effective. 2. Examine the traditional knowledge that has been in place to conserve biodiversity.	1. Traditional roles have been insignificant in the conservation effort at BNP. 2. Government legislation and policy put in place by the park authorities under the game and wildlife division has been the main force behind

				conservation activities of the BNP.
Sunyani Polytechnic	Govardhan Adjetey Adjei / T. A. Kusi-Appiah (TAKA)	Assessing the power relationships between Bui National Park and the fringing communities	1. To investigate if any benefits low from the BNP to the ringing (disadvantages) communities.	1. Park community does not involve the community in management and decision making concerning the park 2. Communities do not obtain benefits such as social amenities and infrastructure from the park.
Sunyani Polytechnic	Prince Adom / T. A. Kusi-Appiah (TAKA)	Examining the flow of benefits from Bui National Park to households of the Bui National Park fringing communities	1. Assess community initiatives to improve tourism development 2. Examine park initiatives to improve tourism development	1. Since the establishment of the park, fringing communities have never benefited from the park. 2. The park does not involve the community in the management and decision making concerning the park.
Sunyani Polytechnic	Alex Pinkrah (SPoly) / T. A. Kusi-Appiah (TAKA)	The effects of the creation of Bui National Park on livelihood activities in Bui and Battor-Akainyakrom communities	1. Assess whether there have been cases of destruction wildlife destruction to common property. 2. Investigate if the communities can access resources within BNP	1. The creation of the park has deprive communities of the lands, ancestral sites, and resources from the park. 2. The loss of opportunities have resulted in considerable loss of revenue to the communities.
Sunyani Polytechnic	Daniel Fei / T. A. Kusi-Appiah	A study of human and wildlife	1. Assess the negative impact of human	1. Effect of wildlife on human activity has

	(TAKA)	interactions in Bui and Battor-Akainyakrom communities of the Bui National Park	activities on wildlife 2. Investigate the negative effects of wildlife of the people living near the park.	centred on destruction of crops, especially for farms that are located close to the park. 2. Wildlife destruction does not attract compensation, something that infuriates the people living near the park.
Sunyani Polytechnic	Collins Peprah / T. A. Kusi-Appiah (TAKA)	The effects of increasing human population on conservation efforts at the Bui National Park	1. Assess the threat of human population to resources in BNP. 2. Investigate the approach to effectively manage resources in BNP.	1. Dynamics of human population does not affect the park. 2. There is the need to undertake research to investigate the effects of climate change on biodiversity and bushfires.
Sunyani Polytechnic	Gabriel Dawuni / T. A. Kusi-Appiah (TAKA)	Assessing the extent of poaching by fringing communities on Bui National Park	1. To investigate the forms, classification and periods of poaching in the park. 2. Examine the motivation for poaching.	1. Poaching is carried out in the park. 2. Effective measures should be applied to curb poaching in the park.
FFRT-KNUST	Abigail Osei-Birago (FFRT) /K. Ampadu Sasu	A checklist of flora of medicinal importance within the Murugu/Mognori CREMA	1. Identify common and rare trees of medicinal importance in the CREMA. 2. Prepare a checklist of trees of medicinal importance with the CREMA.	1. A documented checklist of medicinal plants with the CREMA, 2. Management of CREMA should be encouraged to establish nurseries to help establish medicinal trees at community level through collaboration

				with organizations such as the Netherlands Development Organization (SNV).
FFRT-KNUST	Abu Fuseini (FFRT) /K. Ampadu Sasu	The status of alternative livelihood support programmes on communities fringing Mole National Park: A case study of Mognori Eco-village	1. Identify the various alternative livelihood programmes in Mognori Eco-Village. 2. Identify functional alternative livelihood programmes and organizations responsible for such activities.	1. Major challenges facing the people in Mognori Eco Village is inability to save and access to credit facilities. 2. There is incidence of low levels of literacy and numeracy skills, and overdependence on trees in the Mognori Eco-Village.
CAWM	David Kabambo/Obeid Mahenya (CAWM-Mweka)	David Kabambo/Obeid Mahenya (CAWM-Mweka)		
CAWM	Mojongo Chambi/Omoury Chambegga	Analysis on the economic impacts of elephant crop destruction to communities adjacent to Protected areas. A case study of Saadani National Park		
CAWM	Msowe le lazar o/Obeid Mahenya (CAWM-MWEKA)	Effective methods of disseminating tourism information to local communities adjacent to protected areas. A case study of Saadani National Park		
CAWM	Penina Ayo/Alodia Machumu	Assessment on the effectiveness of		

		outreach prograame in Saadani national Park		
CAWM	Pima Nyenge/ Oliva Nyakunga	Valuation of Ecosystem services in communities adjacent to Saadani National Park (Mkwaja, Saadani and Matipwili)		
CAWM	Justin mwabuki/ Ladislaus Kahana & Obeid Mahenya	Knowledge mobilization plan with local communities adjacent Saadani National Park		

APPENDIX C

Some members of PAPR Ghana Team



Some members of the ICURA Ghana Team visits Serengeti National Park

Appendix D

Bui National Park



Large section of the Bui National Park Inundated by the Bui dam, and a boom in fishing in areas flooded by the dam
Appendix E
Mole National Park



Some wildlife in Mole National Park, Ghana

Avu Restoration sites



Some images from sites in Avu Restoration Area (showing the main means of transport), Ghana

Annex G

Serengeti National Park and Ngorongoro crater, Tanzania



ICURA members visit Serengeti National Park and Ngorongoro Crater, Tanzania

Annex 1 Executive Members of ICURA-Ghana

1. Prof. K. T. Djang-Fordjour, Sunyani Polytechnic.
2. Samuel Obour, Sunyani Polytechnic.
3. Prince Menzo, Sunyani Polytechnic.
4. Kwame Ampadu Sasu, Sunyani Polytechnic.
5. Isaac Abebrese, FFRT-KNUST
6. John Mason, NCRC

Annex 2: Executive Members of ICURA-Tanzania

Mr. Ladislaus Kahana, CAWM
Prof. Abuid Kaswamila, UDOM
Bruce Downie, Kesho Trust.