

Use of indigenous knowledge by women in a Nigerian rural community

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The study investigated Rural Women's use of Indigenous Knowledge (IK) in the development of Ogun State, Nigeria. Among others, it aimed at identifying the nature and types of IK being used by the rural women, the extent of use as well as the domains of use. It equally aimed at finding out how the rural women's use of IK has positively affected sustainable development in Ogun State. The survey research design was adopted. The targeted population comprised rural women in Odeda local government area of Ogun State. A purposive sample of 250 respondents was selected. Data were collected with an interviewer-administered structured questionnaire and analyses were carried out using frequencies and percentage distributions. Findings revealed that majority of the rural women were farmers and illiterates but have vast knowledge of traditional medicine. There was an extensive use of oral IK in various domains: culture transfer and preservation, food security, saving and lending money, population control, childcare, etc but its greatest impact was in the area of food production.

Keywords: Indigenous Knowledge, Sustainable development, Nigeria

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Rural African communities, from the time of our ancestors, have been greatly endowed with 'special' knowledge with which activities were carried out and notable progress made. Notwithstanding, people fail to realize the efficacy of the 'special' knowledge – indigenous knowledge - in the enhancement of sustainable development. This traditional knowledge has not been properly mainstreamed into development projects, especially in Nigeria. Moreover, widespread poverty, epidemics, political unrest, economic instability, terrorism and corruption, among other 'development devourers', have eaten hard into Africa. Efforts were made by many in different quarters; externally and internally to set Africa free from these development devourers. Yet, Africa suffers underdevelopment from generation to generation and Nigeria, as an African country, is not exempted. Since Nigeria gained independence in 1960, different and many development initiatives have been made and implemented by development communities, and other development stakeholders. Notwithstanding, appreciable success has not been achieved or recorded just because indigenous knowledge has not been

given the rightful position in development initiatives. The antidotes to Africa's economic problems are the responsibility of everyone. The Third World countries, including Nigeria, have made mistakes in efforts to bring about the development of Africa. They have depended on the developed world for aid and assistance for too long, even after independence and this has made it difficult to achieve viable alternative approaches to development. Alternative development projects and initiatives that are African based are emerging and this is making Africa to have gradual and noticeable liberation from dependency. Some of these initiatives are: The New Economic Partnership for Africa's Development (NEPAD) and the Lagos Plan of Action (LPA). Only such endogenous initiatives can positively bring about sustainable development in Africa. Africa is blessed with adequate human and non-human resources needed to bring about sustainable development, without external influence. The success of development projects and initiatives in Africa depends solely upon grassroots participation of local people; which is a function of the understanding and harnessing of their Indigenous Knowledge. More importantly, rural women as custodians of this knowledge should be recognized

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and encouraged to use it to enhance sustainable development.

Rural women are pivotal to development in African countries as they play diversified roles in development. They contribute to the family and wage activities; engage in marketing and the distribution of foodstuff, and as wives and mothers to ensure the survival of the family and (collectively) the society. Their domestic activities vitally contribute to the maintenance of the local economy to enhance sustainable development. Observation on some rural women in Ogun State, Nigeria and how they use IK prompted the study. Ogun State is located in the South-Western region of Nigeria with a population of over 2 million people. It has twenty local government areas that are made up of rural, rural-urban and urban communities. The main objective of the study was to investigate the rural women's use of indigenous knowledge in the development of Ogun State and find answers to the following questions: what constitute IK among the rural women in Ogun State and in what domains of life are they used? What are the impacts of the use of IK by rural women in the development of Ogun State?

Rural women have for millennia been central to the breeding of food crop species, the preservation of seeds and the domestication and use of wild edible plants. These they have done through the use of their indigenous knowledge. Not only are they custodians of biodiversity, they are equally endowed with indigenous knowledge of traditional medicine, land use and management, family health care, etc. which they use to enhance sustainable development. In Burkina Faso and throughout the West African Sahel, for example, rural women carefully collect the fruit, leaves and roots, of native plants like the baobab tree (*Adansonia digitata*), red sorrel leaves (*Hibiscus sabbarifa*), kapok leaves (*Ceiba pentandra*) and tigernut tubers (*Cyperus esculentus* L) for use in diet of their families, supplementing the agricultural grains (millet, sorghum) that provide only one part of the nutritional spectrum and may fail in any given year. In Southern Sudan, women are directly responsible for selection of all sorghum seeds saved for planting each year. They cull seeds and preserve a spread of variety of conditions that may arise in any given growing season¹. This ensures food security. Women in the Kalasin region of northern Thailand use their indigenous knowledge in managing the interface between wild and domesticated species of edible

plants. In northern India, an elderly woman farmer puts the matter succinctly as she selects seeds for storage. Also, women in the Dalwangan and Mammbong communities, Bukidnon province, Mindanao (the Philippines) have played an active role in constituting a "memory bank" of indigenous germplasm with agricultural researchers, because they share the concern for diversity.

Women possess an enormous amount of knowledge about food production and processing, medicine, child-rearing and other survival skills². In Tonkere village in Ife Central Local Government (Southwest Nigeria), 86% of the rural women of the area are herb sellers, the farming activities in the upland regions is marjory the "slash and burnt" type of bush clearing³. Women have their indigenous means of detecting the viability of seeds by selecting the sinking ones soaked in a standing pot of water. In Dehradun, India for example, local women were able to identify no fewer than 145 species of trees and their uses; forestry "expert" were familiar with only 25 species⁴. In Sudan, as many as 60 fermented food products prepared by women form an important part of people's diet⁵. Fermentation adds to the nutritional content of food. Using this process, women have been able to produce nutritious food from substrates as bones, leaves, caterpillars and cow urine. The process of fermentation has enabled people to cope with food shortage and famine in the past. Rural women use their indigenous knowledge to develop survival strategies. For example, in Yazd, the "desert capital" of the Islamic Republic of Iran, women have devised a number of highly sophisticated technologies for agricultural production; such as food production in tunnel, constructed underground⁶. In Uganda, women used indigenous vegetable to ensure food security⁷.

In Mali, rural women's use indigenous knowledge to produce *Jatropha curcas* oil as raw material and fuel⁸. Traditionally, the seeds were harvested by women and used for medical treatment and local soap production. Rural women use *Jatropha curcas* for medicine (seeds as a laxative, latex to stop bleeding and against infections, leaves against malaria) and for soap production. *Jatropha* system promotes four main aspects of development, which combine to help assure a sustainable way of life for village farmers and the land that supports them: erosion control and soil improvement, promotion of women, poverty reduction, and renewable energy. A female farmer in Gujarat India, built and improved indigenous capacity

to create efficient and profitable livestock enterprises, and supported sustainable development in her community and beyond⁹. Through her innovations, she successfully transformed the economic activities of an agricultural depressed region in the Mehasana district of Gujarat. In the area of agriculture, rural women use their indigenous knowledge to raise agricultural productivity. Indigenous knowledge has shown itself to be an important and effective resource in the life of rural people, not only in the areas of science, agriculture and medicine but also in other areas of rural development. Rural women's use of IK in Ethiopia, who learnt through hardship to use oxen to plough land for farming has been reported¹⁰.

Rural women also use their indigenous knowledge in family healthcare. In Karnataka India, two women groups operating community biogas plants for electricity generation has been documented¹¹. This energy is being used for providing tap water and lights to all the houses in the villages. In Rajasthan India, a woman group has undertaken community pasture development with success. Rural women form Self Help Groups (SHGs) to improve their livelihoods¹¹. Soap making (*alata* and *amonkye*) has been a traditional activity among rural women in Ghana long before the introduction of bar soap¹². In Sri Lanka, women utilize information Technology to capture, store and disseminate IK by digitally photographing centuries-old palm-leaf manuscripts containing information on traditional medicine and storing them on computers¹³. The rural women's use of their indigenous knowledge has played significance role in multiple domains of development: health, agriculture, education, natural resource management, cultural affairs, etc. Hence, rural women's potentials and innovations should not be undermined, if sustainable development is to be achieved.

Methodology

A survey design was adopted for the study owing to size of the population, respondents' level of literacy and location, time and financial constraints. The population of the study comprised women located in the rural communities of Ogun State. The selection of the population of study and location was based on population density, accessibility of the location and the available financial resources for the study. The location of the study was Ogun State, located in the Southwest region of Nigeria with a population of 3,38,570 (1991 population estimate). Ogun State has

twenty (20) Local Government Areas (LGAs) that are made up of rural, rural-urban and urban communities. A cluster sampling technique was adopted for the selection of the women in Odeda LGA, for the study. Odeda LGA was chosen because it has many rural communities, where women dwell. Odeda Local Government Area was chosen based on existence of large number of rural communities, existence of large population of rural women, appreciable use of IK by the people in the LGA as the best alternative to enhance livelihood. In an attempt to gather the necessary data from the rural women in Odeda LGA, a three-staged approach was used in selecting the respondents. First, a cluster sampling technique was used in selecting the women in Odeda LGA. This was done in order to confine to a few areas or groups as a representative of the whole population. Next, was a purposive sampling technique in the selection of ten (10) localities in order to get information from rural women, who were crucial or relevant to the study. Finally, the selection of 250 purposively selected respondents (25 per locality) considering the resources available for the study.

A self-designed, structured questionnaire was used in gathering the data needed on the different variables, in order to achieve the objectives of the study. The study combined both quantitative and qualitative data, since the questionnaire comprised a few open-ended and numerous close-ended questions. Data were collected between June-August 2006. The questionnaire consisted six parts: Geographic information that contained two items which were open-ended in nature; Demographic Data, which contained six items with three open-ended and three multiple-choice questions; Questions on sources of IK used by rural women in Ogun State containing one close-ended question; Questions on rural women's use of IK in Ogun State. This containing two open-ended questions, where respondents were asked to supply other information; Questions on the domains (areas of life) of rural women's use of IK in Ogun State containing eleven close-ended questions and two open-ended question, where respondents were asked to supply other information; Questions on the impact of the rural women's use of IK on the development of Ogun State containing three close-ended questions and four open-ended questions, where respondents were asked to supply other information. Due to the low level of literacy of majority of the rural women, the questionnaire was

interviewer-administered. Frequencies and simple percentage distributions were used for the analyses.

Results

Responses came from 10 localities in Odeda LGA of Ogun State. Although the sample targeted from each locality was 25 respondents, the frequency of responses gathered varied from one locality to the other. There were five localities with the same percentage of respondents-Anigilaje 25 (11.0%), Ojoo 25 (11.0%), Agbenuoye 25 (11.0%), Iyanbu 25 (11.0%) and Tirinmi 25 (11.0%). Others with varied percentage of respondents were: Eweje 23 (10.1%), Ijemo Fadipe 24 (10.5%), Adewusi 20 (8.8%), Soremekun 19 (8.3%), and Ika Ogungbe 17 (7.2%). There were two different native languages spoken by the different categories of respondents dwelling in the ten localities covered. The percentage of respondents whose native language is Yoruba was 153 (67.1%), while those whose native language is Igede was 75 (32.9%). The population of Yoruba speaking respondents was more than twice the population of Igede speaking respondents. Six major occupations of the rural women were identified from the responses gathered. The major occupation with the highest percentage was farming 101 (44.3%), followed by food processing and sales 59 (25.9%), trading 26 (11.4%), hair dressing 19 (8.3%), tailoring 15 (6.6%) and herb selling 8 (3.5%). Majority of the respondents were farmers. On the literacy level of the respondents, 166 (72.8%) can neither read nor write, 27 (11.8%) can only read, while only 35 (15.4%) were able to read and write showing high level of illiteracy among the respondents. The high percentages of respondents who can neither read nor write 166 (72.8%) is a pointer to why majority of them were farmers 101 (44.3%) as presented above. It also revealed that only a total of 62 (27.2%) respondents; out 228 (100.0%) can read. On their reading skill, out of the 62 (27.7%) respondents that can read, only 12 (19.4%) can read both in *Yoruba* and English languages. The percentage of the respondents that can read only in English language was 5 (2.2%), while those that can read only in *Yoruba* language were 45 (72.6%), showing that the majority of those who can read can only do so in *Yoruba*. On the level of education of the respondents, a very large proportion 166 (72.8%) of the respondents had no formal education. Only a small minority 19 (8.3%) completed secondary school

education, while 43 (18.9%) of them completed primary education correlating with the literacy and reading skills.

Five different sources of Indigenous knowledge were identified and the responses given showed the extent to which each was put to use. The highest percentage of the respondents 186 (81.6%) uses IK inherited in oral form from past generation, regularly. Added to this was another small proportion 37 (16.2%) of those who reported using inherited IK in oral form occasionally. A total of 113 (49.6%) respondents agreed that they are using IK specifically created from African mode of thought (i.e. an alternative means of enhancing sustainability) 36 (15.8%) regularly and 77 (33.8%) occasionally. Thirty (13.2%) of the respondents asserted that they are using inherited IK integrated with the one specifically created from African mode of thought (i.e. an alternative means of enhancing sustainability) regularly, while 82 (36.0%) use it occasionally. The highest percentage 219 (96.1%) of respondents, who asserted that they never use IK inherited in documented form buttress this with previous studies. Only a very small proportion of 3 (1.3%) indicated that they use IK adopted from other African countries. A wide range of Indigenous Knowledge is in use by the rural women and the importance of each as dictated by its use (Table 1). Rural women own a lot of IK of traditional medicine, including: *adinagbon*, unripe pawpaw, *Ori*, *Oosun*, bitter leaf and local gin, black soap and *ewe ejirin*, *Oora ekun* and *Aseje Abiwere*. As indicated in their responses, some of them still use *Owo ele* and *kolo* (made from either clay or wood) to save money, while a good majority of them use *Ajo* (daily money contribution). Igede farmers belong to an association through which self-help is given in form of cooperative aimed at saving and lending money and sharing of innovations; they use all IK to enhance their livelihood (Table 2).

Table 2 shows that 188 (82.5%) of the respondents agreed that they use IK for the transfer of culture, 29 (12.7%) disagreed and 11 (4.8%) were undecided. 203 (89.0%) of the respondents agreed that they use IK for the preservation of culture, while 11 (4.8%) disagreed and 14 (6.1%) were undecided. 204 (84.5%) of the respondents agreed that they use IK for saving money, 17 (7.4%) disagreed and 7 (3.1%) were undecided. 202 (88.6%) of them agreed that they use IK for lending money 21 (9.2%) disagreed and 5 (2.2%) were undecided. 143 (62.8) of the

Table 1—Patterns of IK of the rural women in Ogun State and the uses

Indigenous Knowledge	Uses
<i>Ajo</i> (daily money contribution)	For saving and lending money
<i>Kolo</i>	
<i>Owo ele</i>	
Igede Farmers Association	
Slashing and burning	For land clearing in preparation for cultivation
Weeding	
Farm boundary clearing	
<i>Pakute</i> (trap)	Farm pest control
Suspended bottle and stone	
Soaking seeds in water	Seed selection
<i>Oruka</i> (ring)	
<i>Ifunpa</i> (armlet)	Birth control
<i>Gbere</i> (incision)	
<i>Eda oro</i>	
<i>Owe</i> (proverbs)	For communication
Taboo	
Traditional festival	Transfer and preservation of culture
Drying	
Smoking	Food preservation
Putting vegetables on roof over night	
<i>Eedu</i> (charcoal)	
<i>Iru</i>	
<i>Ogiri</i>	As part of diet for nutrition
<i>Adin agbon</i> (coconut oil)	
<i>Ori</i>	To treat dislocation & rashes
<i>Oosun</i>	Creaming babies' body to avoid rashes
<i>Adin agbon</i> (coconut oil)	
Unripe pawpaw	To treat jaundice
Bitter leaf and local gin	To treat measles
Black soap and <i>ewe ejirin</i>	To treat migraine
<i>Aseje Abiwere</i> (snail, dried fish and cocoa leaves)	For easy delivery of baby
<i>Oora eku</i> (tiger's fat)	To treat keloid or hypertrophic scar

respondents agreed that they use IK for food security, while 66 (29.0%) disagreed and 19 (8.3%) were undecided. 167 (72.5%) of respondents agreed that they use IK for food preservation, 43 (18.9%) disagreed and 18 (7.9%) were undecided. 207 (90.8%) of them agreed that they use IK for childcare, 19 (8.3%) disagreed and 2 (0.9%) were undecided. 187 (82.0%) of respondents agreed that they use IK for family health, while 25 (11.0%) disagreed and 16 (7.0%) were undecided. 163 (71.4%) agreed that they use IK for family nutrition, 33 (14.5%) disagreed and 32 (14.0%) were undecided. 96 (33.3%) of respondents agreed that they use IK for population

Table 2—Frequency distribution of Areas of Life

Domains (Areas of Life)	Agree (%)	Undecided	Disagree
Use of IK for the transfer of culture	188 (82.5)	11 (4.8)	29 (12.7)
Use IK for the preservation of culture	203(89.0)	14 (6.1)	11 (4.8)
Use of IK for saving money	204 (89.5)	7 (3.1)	17 (7.4)
Use of IK for lending money	202 (88.6)	5 (2.2)	21 (9.2)
Use of IK for food security	143 (62.8)	19 (8.3)	66 (29.0)
Use of IK for food preservation	167 (72.6)	18 (7.9)	43 (18.9)
Use of IK for childcare	207 (90.8)	2 (0.9)	19 (8.3)
Use of IK for Family health	187 (82.0)	16 (7.0)	25 (11.0)
Use of IK for Family nutrition	163 (71.4)	32 (14.0)	33 (14.5)
Use of IK for population control	96 (33.3)	33 (14.5)	119 (52.2)
Use of IK for Agriculture	101 (44.3)	44 (19.3)	83 (36.4)

control, 119 (52.2%) disagreed and 33 (14.5%) were undecided. 101 (44.3%) of respondents agreed that they use IK for practice of farming, 83 (36.4%) disagreed and 44 (19.3%) were undecided. A major proportion (62%) of the respondents was able to give explanations in relation to use of Indigenous Knowledge in human areas of life (Table 3). Through the use of taboo, telling of folks tales, method of informal training and periodic celebration of traditional festivals, culture is transferred and preserved; daily money contribution (*Ajo*) helps to save and lend money; different herbs are collected from the bush, prepared and used to treat or prevent infant's and adult's diseases; armlet is worn before sexual intercourse and is removed after the process with a view to enhance birth control; incisions are made around the waist, to enhance birth control. Women used abortive plants for birth control; bush clearing for farming is done by 'slash' and 'burnt' method in preparation for cultivation. Shifting cultivation is done to enhance renewal of land¹⁴. Farm pests are controlled by the use of different IK; sun drying is used in preserving majority of the food e.g. *elubo*, *gari*, melon, pepper, etc.

The responses to the contributions of rural women's use IK to the development of Ogun State are presented in Table 3. These contributions were stated

in terms of the developmental variables in different areas of life. The highest contribution of IK to development in Ogun State was in terms of availability of food 187 (82.0%), followed by cultural promotion 174 (76.3%), provision of good health care 130 (57.0%), reduction of infant mortality 112 (49.1%), social stability 103 (45.2%), women empowerment 97 (42.5%), economic growth 93 (40.8%), poverty reduction 91 (39.9%), political stability 63 (27.6%), and resource management 51 (22.4%). Only about 50.5% were able to give some explanations to their responses. Farming activities are done with the use of IK, which is less expensive result in more crop production and consequently more supply of food. The alternative, less expensive and readily accessible means or methods of preventing and treating diseases have increased chances of survival of both infants and adults. The sales of farm products and trading activities have made for income generation with which other necessities of life are possessed. It is the organization of women group that has enhanced mobilization and support to strengthen women's participation in politics.

The respondents were asked to rank their choices (1-10) indicating the most important and the least

Table 3—Frequency distribution of the contribution of rural women's use of IK

Contributor	Frequency	Percentage
Poverty reduction	91	39.9
Provision of good healthcare	130	57.0
Political stability	63	27.6
Availability of food	187	82.0
Social stability	103	45.2
Cultural promotion	174	76.3
Women empowerment	97	42.5
Economic growth	93	40.4
Resource management	51	22.4
Reduction of infant mortality	112	49.1

Table 4—Ranking of impact on the development of Ogun State

Contribution	Frequency	Percentage
Availability of food	138	60.5
Cultural Promotion	124	54.4
Provision of good health care	98	42.9
Reduction of Infant mortality	89	39.0
Social stability	80	35.1
Women empowerment	68	29.8
Economic growth	59	25.9
Poverty reduction	50	21.9
Political stability	45	19.7
Resource management	31	13.6

contributions. Availability of food ranked first, cultural promotion ranked second provision of good healthcare ranked third (Table 4). It is believed that these results are strongly indicative of the possible positive impact of the use of IK on the development of Ogun State. The last four contributors—economic growth, poverty reduction, political stability and resource management ranked lowest; probably because majority of the respondents were not able to really measure the level of their contributions in these areas. Moreover, many of them believed that their savings base or income was too small to have had a high significant impact on the economy of Ogun State. To them, it was only enough to enhance their survival. There is an indication that the majority of the respondents are poverty stricken. It should be noted that lack of good water supply, good food, inadequate treatment and equipments, lack of education or employment and discrimination against women are some of the numerous factors that contribute to poverty. For poverty reduction (ranked 8 out of 10), shows that majority of the respondents have not been able to combat all factors of poverty except food supply. Furthermore, one can equally suggest that the ninth rank of political stability (as a contribution), shows how indecisive majority of the respondents were; may be because they have not experienced political crisis in their localities or were not interested in politics. Only a small proportion of those who were farmers might have indicated their contribution to resource management in the area of land use.

Discussion

Findings reveal that rural women in Ogun State possess the peculiar characteristics of rural dwellers as the same in any part of Africa. The level of literacy of the rural women is so low that majority of them cannot read nor write. There is therefore, an indication that the socio-economic conditions of the communities; where the rural women dwell coupled with their high level of illiteracy dictated their choice of occupation. But there is an indication, that the trend is being corrected, as majority of the women are involved in sponsoring their children's education even with the little income they are generating. The survey reflects farming and food processing as the major occupation of the majority of the rural women. The farming activity has been mostly of crop production upon which food processing (as an occupation)

depends. In other words, the productivity in the area of food processing in Ogun State is a function of the productivity of crop production-in terms of farming. This is why majority of the rural women are farmers. Hence, rural women play vital roles in crop production and food processing in Ogun State. Majority of the rural women in Odeda LGA are *Yoruba*. One third of the rural women's population are *Igede* and are also farmers of food crops like cassava, tomato, pepper, yams, maize, garden egg, and vegetables. The sources of IK used by majority of the rural women in Odeda Local Government Area of Ogun State are IK inherited in oral form from past generations¹⁵. In an attempt to develop survival strategies or fashion out problem solving strategies however, some of the rural women, through their initiatives create and use IK from African mode of thoughts (an alternative mean of enhancing sustainability).

Further analyses reveal that the sources of IK used and the extent of their usage by the rural women is determined by three important factors, the oral nature of IK itself; the literacy level of the rural women and the level of innovation of the rural women. Hence, IK inherited in oral form from past generation is used regularly or occasionally by the rural women and the level of their innovation to create new IK and integrate it with inherited one depends on the degree of their intuition. Apart from the Indigenous Knowledge like herbs, *Ajo*, which are generally used by all, other IK are used by rural women based on choice and as major occupation demands. In spite of the very small population of rural women who are herb seller, majority of them possess and use IK of traditional medicine. This is an indication that they use herb as preventive medicine and as alternative means of treating diseases. Majority of the rural women whose major occupation was food processing use drying, smoking and charcoal (*eedu*) for food preservation. This is because charcoal has inhibiting effect on the activities of microorganisms. Varieties of IK like *ori*, *oosun*, *adinagbon* (coconut oil) are used by the rural women to prevent and treat babies' skin diseases like rashes, scabies. Bitter leaf squeezed in local gin is used to treat measles, unripe paw-paw and *eerun* soaked in water is used to treat jaundice. *Oora eku* (tiger's fat is used to treat keliod or hypertrophic scar).

Traditional festivals are celebrated frequently in the rural areas and women play vital roles in singing folk

songs, dancing and cooking. Their IK of folk's songs, dances and preparation of different traditional dishes, which they use during the celebration of traditional festival helps to transfer and preserve culture. Women use taboo to teach children norms and value of the society and to provide family health. *Oruk* (ring), *lfunpa* (armlet) and *gbere* (incisions) are used for birth control. *Iru Ogiri* and *adinagbon* (coconut oil) are used as part of diet for family nutrition. *Iru* has the effect of improving sight or vision. Although *Ajo* (daily money contribution) is extensively used by majority of the rural women, with emphasis on savings and access to the resources on a rotational basis, some still use *Kolo* and *owoele* for saving and lending money. Through *Igede* Farmers Association meeting which is done once every week savings and lending of money is not only done, but innovations are shared and transferred. Hence, areas of life for which rural women in Odeda LGA use IK include, local finance (saving and lending money); agriculture or farming—the area of the farming is crop production; food security and preservation; culture transfer and preservation; family health and nutrition; childcare and population control. Women are the custodian of biodiversity and possess an enormous amount of knowledge about food production and processing, medicine, child-rearing and other survival skills.

Evidently, the use of IK by the rural women for different areas of life has also proved their core role as food providers, local economy managers, and agents of population control and family carers. A very high percentage of the respondents sampled agreed that they use IK for saving and lending money. It is believed that this has contributed to a sustainable local economy. Checking family size has not been a thing of concern to majority of the rural women. A high percentage of them disagreed with the use of IK for checking population size. This may probably be traceable to their level of literacy and the ignorance of the adverse effects of population explosion. The level of development was measured in terms of 10 variables; poverty reduction, provision of good health care, political stability, availability of food, social stability, cultural promotion, women empowerment, economic growth, resource management and reduction of infant mortality. The highest percentage of the respondents agreed that there is availability of food in Ogun State, which also corresponds with the responses given to the impact of rural women's use of indigenous knowledge to enhance availability of food.

The availability of food as a developmental contribution ranked first underlining the significance of rural women's use of IK for crop productivity, food processing and food preservation. The second ranked contribution was cultural promotion. This is a pointer to the strong adhesion of the rural women to traditional beliefs and their affinity for sustaining inherited culture. The third ranked was provision of good health confirming the role rural women play in family nutrition and diagnosing babies' diseases using herbs as preventive medicine and as alternative means of treating diseases. These confirm that the impact of the rural women's use of IK is not only felt in the area of availability of food but in other areas of development.

Women are bearers of the future generations and as active members of the labour force, are poles of stability, social structure and development¹⁶. The fourth ranked contribution was reduction of infant mortality followed by fifth ranked social stability; sixth ranked women empowerment; eighth ranked poverty reduction; ninth ranked political stability and tenth ranked resource management. The use of herbs as preventive medicine has contributed to reduction of infant mortality. Malaria and measles are the major diseases that kill the infants, especially in the rural area. Since herbs are used at the right time, children's rate of death has reduced. The use of IK to manage malaria and leishmaniasis in Marigat and ensured survival of life has been reported earlier¹⁷. Social stability is also enhanced by the use of taboo. To them, respect and fear associated with the taboo, has brought about peaceful and harmonious living with low level of social conflicts. Undoubtedly, the promotion of culture, which most of the time involves ritual has positively contributed to social stability. Taboos are used to enhance social stability in Embera; ritual drinking reduces social tension and resolved conflicts¹⁴. One way through which the ritual omen's use of IK contributed to women empowerment is in the use of *adiagbon* (coconut oil) in the hospital for babies' skin. It is evident that their income generated is only enough for family sustenance. Rural women's use of IK promotes four main aspects of development poverty reduction, women empowerment, environmental and soil improvement and renewed energy⁸. Political unrest is not rampant in the rural areas. This is probably due to rural women's life of IK in informal training of their children and the adherence to norms and values of the society.

Conclusion

There is increasing awareness of the significance of sustainable development and its aim of regenerating the environment rather than destroying it. Since sustainable development connotes a combination of development and conservation, it is therefore important to employ the use of "special" knowledge that is unique, easily sourced and renewable. It is equally necessary to encourage the custodians of this "special" knowledge to continually use it is enhancing sustainable development. In line with this, the following recommendations are made: Effort should be made to increase the literacy level of the rural women, through adult education programmes with a view to documenting IK; development stakeholders should encourage and support the rural women to confidently use their Indigenous Knowledge by ensuring their participation in the development process; information professionals should gear effort towards capturing, storing and disseminating IK through the use of Information Technology; and in order to make development strategies more sustainable, development stakeholders need to study and integrate IK into policymaking and extension practices.

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