

1 The or U Varen Iwa (Blacksmith) and the or U Gban Agbe (Hoe
2 Handle Maker) as Agricultural Technologists Among the Tiv:
3 Issues in Africa's Technological Development

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7

8 **Abstract**

9 The Tiv are traditionally farmers by occupation. This implies that they till the soil and keep
10 animals. These provide them with food, meat and a source of income. As agriculturalists, the
11 roles of the or u varen iwa (black smith) and the or u gban agbe (hoe handle maker) is
12 indispensable in the process of food production. This has to do with the fact that they
13 produce the equipments needed for farming such as hoes, sickles, machetes, axes, knives, and
14 hoe handles to which hoe blades are fixed for the making of heaps/mounds and lines for
15 planting various crops. This makes these craftsmen agricultural technologists. The research
16 adopts both the primary and secondary sources of data. This involves oral interview with
17 blacksmiths and hoe handle makers for the primary source. For documented source the paper
18 makes use of books, journals, newspapers and magazines. The paper established that without
19 these craftsmen in Tiv land farm work would be a mirage. However, despite their
20 indispensable roles, no meaningful progress has been achieved as the hoes and their handles
21 used by the Tiv for over 400years have remained the same and neither has the process of
22 making mounds and lines changed. The paper examines the factors responsible for this
23 apparent lack of development in Tiv agricultural technology and calls for improvement in Tiv
24 agricultural implements baring in mind particularly the issue of technological transfer. This is
25 necessary and fundamental if the Tiv and indeed the rest of Africa do not wish to remain
26 technological lagers in a world that is fast assuming a technological dimension.

27

28 *Index terms—*

29 **1 Introduction**

30 he Tiv are traditionally agriculturalists who engage in farming activities to earn a living. They produce a variety
31 of crops for food and for sale (food and cash crops). ??akar (1994:14) subscribes to this view when he stated that
32 the Tiv economy consisted mostly of farming, hunting, fishing, livestock rearing and domestic industries such as
33 weaving, smiting, and carving. However, the dominant of these occupations is farming. Thus, the Tiv cultivate
34 root and grain crops such as maize (ikyuleke), millet (amine), groundnuts (abum-ahi) swamp rice (chingapa),
35 sweet potatoes (atsaka) and a variety of beans (alev/ ahuma) etc ??Makar 1994:42). As the Tiv have increased
36 in population so has the production of food increased with the Benue plains providing the opportunity for this
37 imperative agricultural expansion.

38 In their pursuit of agricultural practice and food production, two functionaries are indispensable. This means
39 that there are two specialists who are fundamental to food production among the Tiv. These are the or u varen
40 iwa (black smith) and the or u gban agbe (wooden hoe handle maker). The fact is that to cultivate the soil

4 A) THE OR U VAREN IWA (BLACKSMITH)

41 requires the services of the or varen iwa. When the or varen Iwa produces various sizes of hoe blades the or u
42 gban agbe produces the wooden hoe handles into which the hoe blades are bought and fixed in order to cultivate
43 the soil.

44 Sometimes, an individual could both be a blacksmith and a wooden hoe handle maker, but most often
45 they are two separate technologists in the Tiv agricultural practice. These functionaries/specialists are seen
46 as technologists because of their perceived innovation in the manufacture or production of these agricultural
47 equipments. It can be clearly seen that without the or varen iwa and the or u gban agbe, food production would
48 be a very difficult and enormous task hence farming cannot be done with mere palms.

49 The issue or bone of contention here however, is that these two functionaries have produced these agricultural
50 equipments over a very long period of time spanning at least 400 years without commensurate improvement in
51 the equipments they produce. For instance, the gbar has remained the big hoe it was known consisting of an
52 iron blade and a wooden handle with little or no changes and neither has the wooden handle produced by the
53 or ugban agbe undergone any changes or modifications. This means that there has been no improvement in Tiv
54 agricultural practice because the agricultural technologists have not been able to make new innovations or modify
55 these farm implements. Tiv farmers cannot therefore engage in mechanize farming because using the hoe causes
56 serious discomfort in the waist due to the long periods of bending required. This reduces the amount of work a
57 farmer can do in a day(s) or even months. In this respect, one wonders whether the food basket status accorded
58 the Tiv in particular and Benue state in general is a myth or reality.

59 The paper therefore examines the activities of these two all important functionaries and tries to decipher the
60 possible reasons behind this technological lag affecting the Tiv in particular and African in general. It then
61 makes modest suggestions aimed at changing this trend and improving on the agricultural production of the Tiv
62 to actually lay claim to the food basket status. As it stands now, one cannot but doubt this presumed status of
63 the Tiv especially when the Tiv are unable to export any food/cash crops produced on their land.

64 2 II.

65 3 Conceptual Clarity

66 The following terms and concepts which appear in this paper convey these related meanings: Agricultural: This
67 is the science or practice of large scale soil cultivation. Bolander (1995) further notes that the verb agricultural
68 is related to, or characteristic of agriculture. Technology: Refers to the science of technical process in a wide,
69 though related field of knowledge. Industrial technology thus, embraces the chemical, mechanical and physical
70 sciences as they are applied in the industrial process (Bolander 1995). Technologist: This refers to some one who
71 specializes in some branch of technology (Bolander 1995).

72 4 a) The Or u varen iwa (Blacksmith)

73 The blacksmith is one of the functionaries or specialists whom the Tiv can hardly do without. As a result of this,
74 it is not uncommon to find the or u varen iwa in Tiv villages to perform this all important task. The importance
75 of having the or u varen iwa in a village is not farfetched as it means easy access to farm implements. The
76 farm implements produced by this specialist according to Adegba (2010:4) include ishom (machete), ijembe (axe),
77 ihyo(knife), hondu kyaa (big hoe blade for men) hondu abya (small hoe blade for women).

78 The agricultural implements listed above are the four main implements used on the farm in terms of tilling
79 and cultivation to weeding and the clearing of fields in order to sow the seeds. The or u varen iwa uses the ate
80 iwa (smithy) in the performance of his duties. Due to the fear of fire outbreak the ate iwa is usually set in the
81 middle or outside the village and if within households, it is isolated from the other huts which are mostly roofed
82 with thatch. Commenting on the tools used by the or u varen iwa, East (1965:62) enumerates as follow:

83 ? the bellows (akpa a iwaa), the tongs (akambe), the heavy iron hammer and the small hammer with the
84 wooden handle, the rake (majagela), the iron and stone anvils (for shaping hot pieces of metals) clay nozzle for
85 the furnace, the water-trough (kpese iwaa).

86 In an oral interview, a respondent, Iorenge Hom of Mbaadigam, Betse-Mbaduku in Vandeikya Local
87 Government Area of Benue state explained that to become or u varen iwa (Black smith) a novice or apprentice
88 need spend not less than two years to know the rudiments of smiting. He however, conceded that an apprentice
89 who is intelligent could use less than two years to master the art; but that the more time the novice spends
90 learning under the tutelage of his master the better and more skilful he becomes (oral interview).

91 There are indications that the Tiv might have been introduced to the use of iwa by the Udam who first
92 introduced the machete to the Tiv who subsequently made use of it in iwa varen (East 1995: 65). However, oral
93 tradition as preserved in myths indicates that the Tiv acquired the art of smiting from the animal kingdom. The
94 oral source maintains that alom (the hare) the chief character of Tiv folklore had gone to mend his hoes at the
95 place of the leopard in company of the iwa (the dog). The Leopard was reputed for killing and eating his clients;
96 but the hare had no option as he needed the services of the leopard if he and his family were not to starve in the
97 coming months as a result of the want of farm implements. On reaching the leopards compound the hare and
98 the dog were ushered into the ate iwa (smithy) and while the hoes were being fixed the leopard made plans to
99 also eat his clients.

100 The hare cunningly knew of this plan and whispered to the dog to give him the eye of one of the leopards
101 he had killed on their way to mend the hoes. This jolted the leopard that disappeared into thin air in company
102 of his family to avoid being eaten by the hare. Following this development the hare and the dog collected the
103 smiting equipments and left. However, a quarrel ensued between the two friends and the hare parted from the
104 dog who eventually set up the smithy. Similarly, a hunter domesticated the dog and took control of the smithy
105 which explains why the smithy is called ate iwa in Tiv meaning (the dog's smithy). This marked the beginning
106 of smiting among the Tiv (oral interview).

107 With reference to how the irons used in making different farm implements are acquired, most of the respondents
108 explained that old hoe blades, rods and other iron materials that are good for use could be bought or picked from
109 scrap and converted to use in the making of the kyaa and abya blades (big/small hoe) or aho (knives), ijembe
110 (axe) which the farmers need. Therefore, sourcing of these materials is not so difficult as one could even pick on
111 these as he walks about. The or u varen iwa in so much valued in the community in Tiv society such that he
112 receives visits from both the men, women and the youth who are engaged in agriculture practice and need new
113 tools or to mend broken ones and fix them back to use. As a mark of the trade, the blacksmith must be very
114 honest with the clientele's by producing hoe blades with qualitative materials that the farmer uses for long.

115 Plate 1: Akpa a iwaa (bellows) in the ate iwa (smithy) set behind a semi built wall to prevent the scorching
116 heat from the live coals used in heating irons from reaching the or u varen iwa (black smith). The provision of
117 this wall is a remarkable improvement from previous smithies. Also, some smithies now use the motor cycle wheel
118 to fan or kindle the embers of fire. Note the two slim poles for fanning the fire lying on the semi wall On the
119 other hand, if the or u varen iwa is not honest and uses light irons to produce farm implements which squeezes
120 when it comes into contact with the social or tree roots, he is not patronised by the community. So if a black
121 smith places premium on money rather than community service for which his people conceive his services to be,
122 he loses clientele's. Therefore, the or u varen iwa is a very busy person in his community particularly during the
123 rainy/wet season when farmers cultivate their lands. During this period farmers through the smiting with one
124 problem or the other regard their farm implements seeking for a solution. The faster he attends to them the
125 more they hold him in high esteem.

126 5 b) The Or u Gban Agbe (Hoe Handle Maker)

127 The or u gban agbe is another functionary which the Tiv cannot do without as far as agricultural practice is
128 concerned. This is because he is responsible for producing the wooden hoe handles for the various sizes of hoe
129 blades made by the or u varen iwa (Black smith). These could be agbe (wooden handles) for the kyaa (the big
130 hoe for men) and abya (small hoe for women). They could also be agbe (plural) or igbe (singular) for axes, knives
131 or machetes etc. On the or u gban agbe, East (1965:65) maintains that:

132 (Abinitio) The Tiv did not have many tools to work with (on the farm) as they have now. They had the
133 digging stick, the wooden hoe for farming and machetes for felling trees which they got from the Udam.

134 The obvious fact that manifests here is that the or u gban agbe becomes the functionary to produce this
135 all important component of the hoe for use by the farmer. It also shows that the art of farming was and has
136 continued to be difficult especially then; when irons hoe blades were not known to the Tiv. In fact, East (1965:81)
137 points out that even when the Tiv first learnt the art of planting yams by making heaps; which he said they
138 learnt from the Udam, there were no iron hoes but wooden hoes.

139 To make a wooden hoe handle for his clientele's the or u gban agbe uses the ityor (a sharp long bladed
140 equipment with a long handle) and a machete (ishom) or ijembe (axe). While the ityor is used for shaping the
141 wood, the axe or machete is used for felling a tree or its branch. East (1965:65) comments:

142 (To make a wooden hoe handle), the or u gban agbe cuts down part of a gbaaye tree at a point where it
143 branched and stripped off all the bark. Then he carefully worked on the nombur (blade) into a flat shape onto
144 which the hoe blade is attached when pierced.

145 On how to acquire the skills for making agbe, David Betse Ningir avers that the novice first serves as an
146 apprentice under a qualified or u gban agbe over a period of time. This he says could be three to six months
147 depending on how intelligent the novice is and also how he takes instructions from and observes his master
148 manipulate several branches of trees cut down into fine agbe (wooden handles) (oral interviews)

149 In making the abge the specialist does not just use any type of tree specie but hard wood. According to Bem
150 Wende hard woods are better for hoe handles compared to the soft woods which soon decays or gets infested
151 with insects and breaks. Thus, the choice of hard wood such as gbaaye tree (*Prosopis africana*), koondo (*Dialium*
152 *guineense*), gbagbongom (*Burkea africana*), har (*Kyaha senegalensis*), alumbu (*Citrus spp/Citrus sinensis*),
153 malina (*Gmelina arborea*), and hulugh (*Vitex doniana*) are used (oral interview). Also, tree species such as
154 mungur (*Mangifera indica*), gbiankpande/ gyankpande/ agabi/ Nyihar (*Piliostigma Thoningii*), hir-gbur (*Vitex*
155 *simplicifolia*) and ahur (*Anona senegalensis*) could be used but their durability is not so much guaranteed as agbe
156 made from hard wood. The art of making agbe requires no special place/shrine (Agishi 2-25 for the scientific
157 names of trees).

158 Thus, the or gban agbe could use his ate (reception hut) or his court yard to perform his duties. It is to be
159 noted that both the iwa varen and or gban agbe are masculine orientated jobs among the Tiv as females are
160 hardly seen performing these tasks. However, the foregoing sentence does not in the least portend that women are
161 incapable of performing these jobs especially in the contemporary technological world in which women are found

6 C) THE OR U VAREN IWA, OR U GBAN AGBE AND AFRICAN RELIGION

162 in the different sectors of human Endeavour not to talk of agitations for women equality and 'de-genderization'
163 of roles often backed with the saying: 'Whatever a man can do; a woman can do even better.'

164 6 c) The or U Varen Iwa, or U Gban Agbe and African Religion

165 As a scholar of African Religion and culture it is pertinent to situate the study in my field to give it a base or
166 foothold. It was Mbiti who observed the indispensable role of Religion in whatever the African does when he
167 stated that 'wherever the African is, and whatever the African does there is his Religion' (1969). This assertion
168 is not far fetched in the performance of duties by the or u varen iwa and or u gban agbe among the Tiv. Thus,
169 Religious taboos and rituals are associated particularly with the duties of the or u varen iwa. Subscribing to this
170 Iornenge Hom observes that several taboos accompany his practice of iwa varen. These taboos according to him
171 include: (i) A person is prohibited from removing any item from the smithy fire except with the permission of the
172 blacksmith. (ii) No one including apprentices' removes the akambe (tongs) other than the blacksmith when there
173 are buried in the smithy at the end of the days work. Thus, if an apprentice needs any equipment buried by the
174 black smith in the absence of their master they necessarily wait or make do with equipments available not those
175 buried. (iii) When the black smith sets up the akpa a iwaa (bellows) in their place, only he can remove them and
176 no one else (oral interviews). Iwa (smithy) is associated with impotence when violated; it therefore means that
177 anyone who breaks these taboos is made impotent unless cleansed by the iwa priest to restore his male potency
178 (oral interview). Atega (2010:4) also adds that it is prohibited for someone to steal any item from the ate iwa
179 (smithy). Similarly, when a fugitive, a child or woman engaged in quarrel or fight runs into the ate iwa to take
180 refuge, such a fugitive is not pursued and dragged out of the ate iwa. When a person violated this rule, he/she
181 was visited by thunder the patron deity for smiting and struck dead. In addition, suspected thieves were made
182 to swear by iwa and if proven guilty becomes impotent and stood the risk of being smitten by thunder.

183 Furthermore, the or u varen iwa (blacksmith) could keep the kpese iwaa (water trough) in his smithy when
184 he completes all the ritual processes as a full initiate into the iwa rites. In the kpese iwaa, the or u varen iwa
185 who by virtue of this has become an iwa priest pours a drawly substance obtainable from the huerza tree. It is
186 in the kpese that the black smith holds pieces of iron using the tongs in the process of joining them together to
187 produce an item such as the nombur kyaa (the pointed end of a hoe blade that is fixed in the wooden handle)
188 (oral interview).

189 When the or u iwaa has reached this stage he is said to have bee iwa (completed the initiation rites) and he
190 could at this juncture erect the iwa emblem and settle all iwa related problems such as ijuwa i kpen (impotence),
191 severe waist pains and barrenness in women especially if they had not given birth before. In appreciation of his
192 paternal kinsmen (ityo) and maternal kinsmen (igba) for their support in attaining such a status, the imitate
193 make sacrifices which include human, food, drinks and the slaughter of animals such as a goat or pig.

194 By virtue of his position as or u been iwa (full initiate), apart from treating or handling iwa related problems
195 such an initiate can adore in the gbegba (symbolic necklace) as a sign and mark of his mastery of iwa. According
196 to Iornenge Hom, there are two types gbegba necklace i.e. gbegba u ityumbun (rituals) and the gbegba a iwaa
197 (impotence). An initiate who has acquired the two ugbegba and achieved the status of bee iwa wears the two
198 necklaces crisscrossed on his shoulder to depict his enviable position and status in Tiv Traditional Religious
199 circles (oral interview).

200 Furthermore, Bem Wende and Gbanban Akpage both black smiths, it is only an initiate who has completed
201 all the ritual rites associated with iwa that performs the purification rites to remove the Ijembe Aondo (black
202 meteorite stone) in a tree or building struck by thunder and lightning. Similarly, all such mastered practitioners
203 who engage in smiting during the rains. Thus, if one is not a full initiate into iwa but tries to carry out smiting
204 during the rains there is a clash of thunder/lighting bolts and the red hot iron from the fire which could cause
205 devastating effect including death and burning by fire (oral interview).

206 For the or u gban agbe (hoe handle maker), he requires no initiation or sacrifice for his trade. However, if
207 in the course of carefully searching for trees with branches suitable for agbe (hoe handles) and he attempts to
208 fell a tree in which the adzov (spirits/fairies) have made their abode he could invoke their wrath. They could
209 beat him severely for trying to dislodge them and disturbing their peace. To this phenomenon, Senenge Iorwuhe
210 and Matthews Nyitar both Mba gban agbe (hoe handle makers) claim that the Adzov could also make such an
211 unfortunate person to wonder in the bush aimlessly without actually falling any tree or cutting off the agbe (oral
212 interview).

213 When this happens, sacrifices are offered the adzov in terms of a white chicken/ram and kola nuts in
214 appeasement to release and remove the spell they have cast on the culprit. The Adzov priest performs this
215 ritual in which the culprit is warned against further falling any trees at random in the bush (oral interview). The
216 Adzov in this sense could be said to be conserving the environment and discouraging the random felling of trees
217 which could lead to erosion and desertification.

7 d) The Or U Varen Iwa (black smith) and the Or U Gban Agbe (hoe handle maker) as Agricultural Technologists among the Tiv: Issues in Africa's Technological Development

Technology is something which grows and develops gradually from a crude form to a sophisticated form as society evolves from one stage to the other. Also, socialization and interaction between societies could fuel technological growth. Most often therefore, there is the issue of technological transfer in which one society borrows one form of technology from another society and modifies it to suit its own purposes. This means that a tractor made for use in America will not necessarily be suitable in sub-Saharan African because it was not made for such a geographical environment; if such a tractor is to be used in Africa it would have to be modified to suit the African environment. This is how technology has evolved and grown since man, first made use of tools to assist him in his day to day tasks. The essence of technology is to reduce man's physical efforts and strength in the performance of tasks and to hasten and make such tasks easier for him. As a result of this conception, when technology is first introduced to a people, it is often not easy to adopt such a technology. This is however, made easier as man puts such tools and equipments into perpetual and constant use. East (1965:65) agrees with this proposition when he wrote concerning the Tiv that:

When the new farm implements developed by the Tiv agricultural technologists first made inroads into Tiv society and contact with Tiv farmers; at first it was not at all easy for them to make a farm with these tools, but they went on trying until they got used to it. However, the irony of the introduction of agricultural technology in the form of kyaa (big hoe), abya (small hoe), ishom (machetes), ijembe (axe) and the continued use of these equipments and eventual mastery of their use, no remarkable achievement has been made by the Tiv agricultural technologists of mba varen iwa (Black smiths) and mba gban agbe (hoe handle makers). What we see is that for over 400 years, the kyaa, abya, ishom, ihyo (knife), ijembe (axe) and agbe (hoe handles) have neither been modified nor new types introduced into the Tiv agriculture which is the hub of Tiv economy.

Thus, since the Tiv started making use of these equipments, they have had to bend over the kyaa and abya, ijembe, ishom and ihyo making use of their physical strength. This has often reduced the amount of work done over a long period of time. It has therefore not been possible to introduce mechanized farming among the Tiv because of the use of these crude agricultural equipments produced by the Tiv agricultural technologists. As a result, even though the Tiv claim to be the food basket of Nigeria, they are not engaged in mechanized farming and none could be said to have made it to a big time, rich farmer. The Kyaa or agbe from Tivland as well as the food it produces have not been exported to any country of the world for cash.

What we see is the use of physical strength and energy on farms involving the youth, women, children who spend considerable time tilling, weeding and Volume XVI Issue VII Version I 37 (A)

cultivating crops, something that could be swiftly done with machineries. This has ensured that Tiv farmers with large farms marry many wives who equally give birth to a legion of children to help in these farms and sometimes lack basic necessities of life including education and health. Most annoyingly, is the fact that Tiv communities where these agricultural products are produced from have neither electricity, pipe borne water, motor able roads, health care facilities and schools. Ignorance and disease thus, rule Tivland in the 21 st century.

Certain factors are responsible for this apparent lag in technological development among the Tiv and Africa in general as can be seen from the succeeding enumeration below: 1. The first and foremost issue which has led to the technological lag of the Tiv has to do with the phenomenon of as it was in the beginning. To this when asked why they have not made new innovation in their production of the hoe and the handles; most Tiv agricultural technologists insinuated that "that was how their forefathers produced them from the onset. This implies that there is no need to explore avenues for change modification and development because "As it was in the beginning so shall it be without change or end -Amen. Akimbote (2008:119) shares in this view expressed above when he wrote that rigidity could explain African (Tiv) technological lag. He explained that Rigidity has to do with the fact that things do not change much in the system. The old ways of doing things by our ancestors many decades ago are still being followed. This inhibits room for bringing new ideas or methods into the system. Akimbote (2008:119) therefore maintains that:

The same old ways of doing things are passed on from one generation to the other. There is even a popular saying that things must be done the way they were usually done so that the same results could be obtained. In other words there should be no modification, alteration or a local departure from the traditional ways of doing things. As a result of this above, a deviant who openly departs from this code are punished. Depending on the grievance of the presumed offence by the elders, a person could be verbally abused, isolated, expelled from the community or in some extreme cases, he could be put to death. Who would want to sacrifice his/her life because he/she wishes to bring changes beneficial to the whole society? 2. There is also, the problem/issue of secrecy attached to most of the ways African and the Tiv in particular do their things. By secrecy, it means that certain knowledge and information including technological are taught to a selected few. For instance, not everybody in Tiv society is privy to the iwa except initiates. Commenting on the issue of secrecy and its role in the lagging technology of the Tiv, Tor-Geri (2012:14) avers that: most often the practice or knowledge in a particular field is only held by the people that owned it and as such its secrecy of ownership could not guarantee its easy accessibility. In most cases, Tiv technologists die and are buried with their knowledge because they had had it a secret knowledge and never divulged it to others. 3. Taboos also play a significant role in the lagging

9 SUGGESTIONS

280 technology of the Tiv. Taboos based on superstitious beliefs often create unnecessary fears in people and prevent
281 them from advancing as a result of repercussions attached to the violation of some taboos. As a result, many
282 useful ideas that could help the Tiv leap out of the Quagmire of lagging technological advancement which could
283 be of benefit to humanity have been kept as secret. 4. Another fundamental issue which has posed a serious
284 challenge to the technological advancement of the Tiv and Africa at large is that of illiteracy. This could be
285 regarded as one of the greatest problems facing African's technological quest. Illiteracy here has to do with the
286 absence of the skills for reading and writing and this has created serious problems. Most often the indigenous
287 knowledge system for want of writing is not documented but held in memory and is subject to alteration or
288 being completely forgotten. Akimbote (2008:121) is of the view and rightly so that, if reading and writing were
289 involved in African's indigenous knowledge system, most of these short comings would not cause any harm to
290 our technological advancement. 5. Similarly, there is the problem or challenge of witchcraft among the Tiv. As
291 a result, any person who demonstrates extraordinary skills and is curious to know is often labeled a witch. This
292 attribute soon suppresses the person's zeal and he/she returns to the status quo. Children whose curiosity leads
293 them to ask several questions regarding nature or openly talk of their ideas are seen as being rude. They are
294 expected to be quiet in the midst of elders. The suppression of children/youth who are said to be leaders of
295 tomorrow as well as social innovators is not good for the progress and quest for socioeconomic and technological
296 advancement of Tiv society and Africa in general. Thus, while we recognize and respect the wisdom and authority
297 of the elders, the youth should be allowed to contribute their own ideas. This is what brings progress even as
298 attested by the Tiv who have a saying that: Wanye kaa er I bur yar tior meaning even a child could have a
299 solution to a problem. The or U Varen Iwa (Blacksmith) and The or U Gban Agbe (Hoe Handle Maker) as
300 Agricultural Technologists Among the Tiv: Issues in Africa's Technological Development III.

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302 9 Suggestions

303 From the foregone discussion, we make these modest suggestions as a way out of the problem of backward
304 technological development facing the Tiv and Africa in general:

305 First and foremost, we call on the Tiv in particular and Africa in general to engage in the transfer of
306 technology. According to Bolander et al (1995 ??olander et al (:1015)) Technological transfer entails the
307 transfer of technological knowledge generated and developed in one place to another to achieve some practical
308 ends. It is to be noted that the Asian countries of China, Japan, Taiwan, Korea, Malaysia etc popularly called
309 the Asian Tigers have attained the rate of technological and industrial advancement today due to the transfer
310 and domestication of technology from Europe and America for practical use in their countries.

311 As a matter of policy the Asian Tigers focus their attention and investment on the establishment of a strong
312 industrial base and an export oriented economy. Currently the rate at which these countries are growing
313 technologically threatens the leading markets of Europe and America put together. Most of the electrical
314 gadgets ranging from Television sets, radios, refrigerators, and satellite decoders down to little items such as
315 rechargeable lamps and torch lights have one Asian name or the other on the label. Tiv/African technologists
316 whether traditional or modern, must strive to borrow technology from other lands to domesticate and make such
317 items relevant to our people. This would even make them to produce tractors that would make heaps for the
318 planting of yams and other tubers and those that would make tractors to make ridges for planting of cereals and
319 vegetables. It is a great irony that the Tiv reputed for their nocturnal technology that produces nocturnal planes,
320 tractors, trailers, bicycles, cars, ships, radios and television are unable to transfer these nocturnal technology to
321 their advantage to help develop themselves and Tivland in general.

322 Furthermore, we call on the Tiv to invest in education in order to provide quality education to their children
323 and the youths. This would make them literate i.e. able to read and write. As a result, the issue of taboos and
324 superstition would be greatly reduced if people are able to read and write. This will also preserve indigenous
325 knowledge which often dies with innovators. The ability to read and write will equally make the Tiv more prone
326 to accepting new ideas which would then spur Tivland and place it on the verge of technological development.

327 But most importantly, the government must as a matter of necessity turn its attention towards the issue
328 of technology as affects the African people. Towards this regard, the Nigerian and African governments must
329 sponsor research into technological feats especially where an individual has made a breakthrough. The current
330 lukewarm attitude posed by the government is not encouraging. For instance the Late Engr John Dzomon of TZ
331 Engineering Technologies, Makurdi, Benue state had produced a helicopter, but lacked governmental sponsorship
332 to improve on the air craft and he later died with his knowledge and skills perhaps a frustrated Tiv man who
333 could not pursue his passion and technological feats to a logical conclusion, for want of funds.

334 Governmental interest in this regard should not be that of launching satellites into the orbit alone or expressing
335 such desires on the pages of newspapers/magazines and inscriptions on T-shirts and face caps worn by government
336 officials and their cronies. Thus, if genuinely worried by the apparent technological backwardness of the continent
337 as expressed by the African Union's (AU) heads of state in 2007, something more meaningful needs to be done
338 to ease out of this problem. For instance, the allocation of at least one percent of the gross domestic product
339 to research and development by the year 2020 should be made practical not a tea party promise ??Ochefe et al
340 2009:101).

341 The Heads of state meeting in Addis Ababa, Ethiopia in 2007 and the declaration of the year 2007 as Africa's
342 year of Science and Technology does not transmit to actual technical break through. African universities and
343 polytechnics must as a matter of necessity be properly funded to achieve the aim for which they were established.
344 Most of these educational institutions as it were lack both qualified manpower and resources to embark on such
345 an all important project with laboratories and libraries having out dated books and obsolete materials.
346 IV.

347 10 Conclusion

348 In conclusion, we need not over flog this issue any longer hence it is not the member of time a man sleeps with a
349 woman that she is impregnated. However, the Tiv must look into this lag in technology affecting them inwards
350 i.e. transfer of technology, if not they would remain 2 nd class citizen in Nigeria stricken by poverty, hunger,
351 disease and illiteracy and would not be reckoned with by serious minded ethnic groups in search of technological
352 breakthrough such as the Igbo. The world is fast advancing technologically and the Tiv must advance with it
and not lag technologically even as the world edge deeper into the 21 st century. ^{1 2 3 4}



Figure 1:

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¹© 2016 Global Journals Inc. (US) sThe or U Varen Iwa (Blacksmith) and The or U Gban Agbe (Hoe Handle Maker) as Agricultural Technologists Among the Tiv: Issues in Africa's Technological Development

²© 2016 Global Journals Inc. (US)The or U Varen Iwa (Blacksmith) and The or U Gban Agbe (Hoe Handle Maker) as Agricultural Technologists Among the Tiv: Issues in Africa's Technological Development

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Figure 2:



Figure 3:



Figure 4:



Figure 5:



Figure 6:



Figure 7:



Figure 8:



Figure 9:

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