

## **Sustainable Design Approaches for Handicraft Community Development in Machakos County.**

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### **ABSTRACT**

*This paper highlights the important role played by design in shaping the new African continent economically, socially and environmentally. This role is highly linked to the rich interaction between religion, art and culture in Africa. Africa thrives well through networks formed by different cultures, customs, history and people spirit of working together. It is in such setups that handicrafts communities thrives well, however, Africa has been left behind in the sustainability of the practice key to rural development. This paper is aimed at exploring ways in which design can play a key role in the process of developing sustainable handicraft communities from inception to full implementation. It also explores the barriers for the uptake of community development initiatives in the design profession in Africa. Qualitative analysis and case studies are the major research strategies used. Wamunyu area will be used as the case study of a handicraft community existing in Machakos County. Data collected from archives, interviews and published reports for this purpose. This paper concludes that design plays an important role in the development of sustainable handicraft communities especially in the rural areas. The impact of this research is realized by the benefits of sustaining the handicraft communities that are important enterprises in rural areas development. The innovative use of design approaches today ensures a smooth transition for design use in Africa's problems tomorrow.*

**Key words;** Community development, Design approaches, Handicrafts, Sustainability.

### **INTRODUCTION**

Africa thrives well through networks formed by different cultures, customs, history, practices and people's spirit of working together. It is in such setups that development activities thrives well however they are practiced at an informal or traditional level thus not well developed to full potential in rural areas. Rural development has been a key subject dating back to the industrial growth in urban centers of the 1970s to date. Rural areas according to Limkriengkrai (2010) are key support of any development as they provide raw materials and skilled labor to the growing economy in urban areas though do survive alone by small economic activities apart from farming. The informal sector plays a key role in rural development especially in ecologically fragile areas. Small scale industries forming important occupational activities and source of income to the majority of the people. Rural areas open opportunities for the growth of handicrafts due to the availability of skills and raw materials. Mutinda (2014) points out that these activities can be grown from a traditional craft to a successful commercial industrial operation if well-organized with proper marketing channels, access to institutional credits and environmental preservation methods. This is in line with the Kenya's Vision 2030 development blue print aiming at making

the country a newly industrialized middle income nation providing high quality of life for all its citizens. The vision's pillars targeting to encourage development through investing in people with provision of equitable social development in a clean and secure environment aimed at issue based, people centered and results oriented policy approach. The foundations of the blue print contributing to the development agenda through wealth creation opportunities, infrastructure, innovations and developing human resources to be globally competitive through training and education (Kenya Vision 2030).

The nature and extent of these rural communities are short lived in the country as they do not meet and maintain basic elements of sustainability such as proper planning processes, public participation, infrastructure and opportunities. Unwto (2005) attributes these development setbacks to the view of rural development as with less economic opportunities. Previous research and case studies in South Africa, asia and south america indicates that the continuation of these communities can be achieved through product service approaches enshrined in community based and sustainable community tools (unwto, 2005). Sustainable community tools include integrated design processes (idp), post development monitoring and community dialogues allowing opportunities, innovation and continuity. the suggested approaches are custom to each community as observed by richards (2013).

the commonly used approach in africa for handicraft community development is the community based tourism working around the product as the center with an aim of adoption as a business model as practiced in edo state nigeria, zambia, uganda and in some parts of kenya. This model however faces environmental degradation problems and reduced participation by stakeholders thus maturity of the community is not achieved and points out the need for review. Reduced natural resources due to over exploitation also discourage the activity. competition, middlemen who profit from the business more than the community, poor marketing channels and lack of proper organization and implementation processes are other challenges cited (unwto, 2005; mutinda, 2014). One such handicraft community is the wamunyu wood carvers of the akamba people in Machakos County.

The wamunyu handicraft community is home to an estimated 8,000 people practicing wood carving, drums making, beadwork and weaving dating back since the introduction of carving in 1918 by mutisya munge. The community has seen the establishment of other smaller communities of wood carvers and other handicrafts in kitui, makueni, malindi, Mombasa, nanyuki and nairobi. Artists apprentice others for continuity relying on tourists and the machakos cooperative union for marketing and funding. Being a practice highly dependent on natural resources such as trees, the community has initiated a program for planting and selling trees for sustainability of the practice. other initiatives are by the county government to promote the area as a cultural center, online marketing, value addition and proposition as a world heritage site. At the center, not many people are involved in the handicraft making due to low markets of products, low prices for the products, limited funds and limited resources thus the need for examination of the activity and improvement of the current community organization processes and structures for a more sustainable community based approach.

## **RURAL DEVELOPMENT**

The term development has regularly been towards the idea of good change established to exist when the wellbeing and quality of life is improved (Chambers, 1995). Rural development referred to as meaningful growth economically, culturally and environmentally in the country side or non-urban settings.

Development in rural settings are originally conceptualized as avenues for economic opportunities for undeveloped localities targeting groups rationally described as remote, rural, impoverished, marginalized, economically depressed, poor, indigenous, ethnic minority and people in small towns (Muganda, 2009). They are characterized by a traditional, participatory or agricultural economic system in which work, goods and services utilize resources established in long traditional patterns (Ndlovu, 2015).

Rural development progress well when people work together towards similar goals. people act independently in their own interest thus unintentionally deplete resources contributing to the consumption of resources on a basis of continuous habits thus the need for unity of purpose fulfilled in rural community setups (Turcu, 2012). Community participation is also key for development of rural areas from inception to fulfillment through power redistribution, citizen participation, collaboration processes and social capital creation equitably distributed.

The availability or existence of communities' setups in rural areas greatly influences the destination of choice for tourism, service industries and investments (Mwathi & Kagiri, 2014). It is also a determinant of the type of infrastructure to be put in place hence its importance in rural economies. Mwathi And Kagiri (2014) emphasize the need for community types of setups for meaningful and sustainable development however recommends for further research on strategies that players employ to increase their attractiveness and sustainability. Markey Et Al. (2006) agrees that rural areas are perceived as with limited development opportunities hence a community oriented and territorial approach will be more successful than a top down industry based approach.

new approaches to rural development are aimed at sustainability of the processes of the development agenda. experts argue that the top down approach is to be interchanged with the bottom up approach which yields better results increasing ownership and participation by the communities (Limkriengkrai, 2010). participatory development is another approach that involves stakeholders in the development processes, participate in the design, implementation and evaluation of development interventions. sustainable development as a new approach is directly linked to an environment focus development agenda with economic and social benefits. richards argue that the social aspect of the development should be an approach by itself towards rural development focusing on culture and key issues such as gender (richards, 2013). sustainable livelihoods are also a new approach used for rural development which focuses on livelihoods as a means of achieving sustainable poverty eradication. booz (2013) points out that sustainable development is through supportive environments for the community systems for services or products and the durability or sustainability is achieved by the continuous supply of this benefits socially, economically or environmentally.

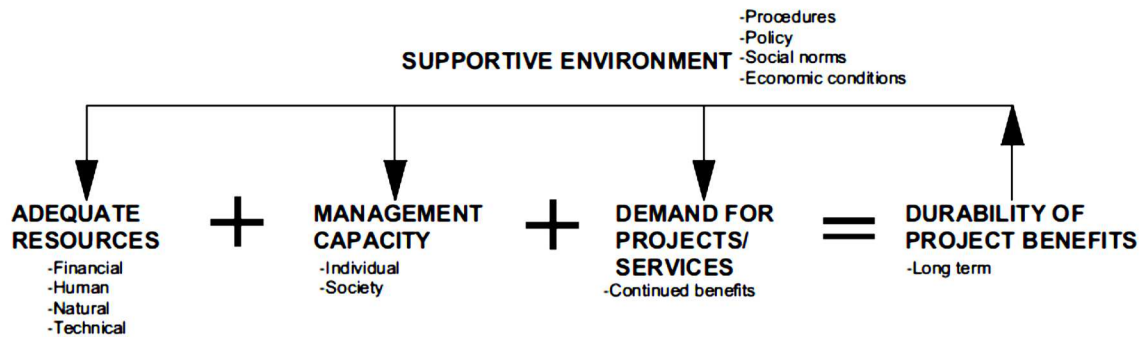


Diagram 1. Dynamic Sustainability community development model. Source, Booz (2013).

akpomurie (2011) proposes the merge of traditional culture and imported cultural skills to attain sustainable development in the rural areas as a concept. this argument is based on the fact that knowledge is passed from generation to generation in a sustainable way over the years thus equals to development. kothari (2007) agrees that people have their own solutions from practice, traditions and cultures if utilized are sustainable. the merge of tradition and modern aspirations can be achieved through participation for sustainable development.

the brundtland report of the 1987 world commission on environment and development, merged development to the environment. the report cited sustainability of development as highly dependable on the bridge concept of economics, ecology and ethics with the ownership of the concept spread across all sectors (bruntland, 1987). cases in africa, many parts of latin america, asia and middle east indicates that the major causes of political unrest and international tension is related to environmental decline. critical survival issues were reported to relate to uneven development, poverty and population growth. bruntland proposed an interdisciplinary and integrated approach to be used for the development processes. the development concept was linked to environmental sustainability, economic and ecological policies under a cause and effect theory (uncsd, 2007).

development processes for the developing and developed nations have since followed the bruntland model but adjusted to fit its cultural and economic context. the rationale of a sustainable development process being based on the assurance of renewable economic, social and cultural benefits to the community and its environment (richards & hall, 2000). more stakeholders are involved in the processes with gradual integration of the community, in some cases, they are driven by the community entirely (limkriengkrai, 2010).

## COMMUNITY DEVELOPMENT

A community is defined as an existing or potential system of individuals, groups and organizations that possess common concerns, interests and goals (Bush et al., 2000). Aref and others (2010) describe the community as a group of individuals residing a similar geographical area with common cultures. Development in this definitions is related to the area where these groups live and related directly to their activities economically or socially.

Community development is introduced within an area for the purpose of the wellbeing of the people and the environment especially in rural settings. Key drivers being the provision of economic opportunities through meaningful employment for members, community revitalization,

value addition to an existing system especially conservation projects, it is also a source of financing of other projects such as infrastructure and education. Community development is also introduced as a means of revitalizing intangible or tangible culture such as cultural events, festivals, local handicrafts and traditional farming practices.

It is worth noting that creating communities that work socially, economically and environmentally for long term basis is still a major challenge in our current generation (Woodcraft et al., 2012). Other barriers identified for community development include lack of or poor education, business experience, insufficient financial assistance and conflicting vested interests. Okazaki (2008) pointed out that varying degrees of involvement must be assigned to different evaluations and forecasts in the process for them to work efficiently. Richards (2003) agrees that creative processes from the inception to post implementation are to be introduced involving all stakeholders in such a way that ownership is created and decision making is shared at different stages.

The development process generally follows four key stages from inception to full maturity and up scaling though varies with population size, cultural context, local needs, development intensity and previous planning efforts (Reid et al., 1993; Okazaki, 2008).

#### *Inception*

this is the ideation stage of community development. the new idea or concept should be more strategic and future thinking or visionary in development approach (reid et al., 1993). initial community assessments are carried out to harness the experience, expertise, desire and support of the local residents together with stakeholders generating inventories of perceptions about development related changes depicting experiences, concerns, hopes, fears and dreams. pinel (1998) cites this as crucial for making more informed decisions while building organization and infrastructure capacity. a good ideation is a flexible and responsive process due to cycles of growth or decline influenced by relationship, roles and changes of stakeholders as recommended by woolcock & narayan (2000).

#### *Capacity building*

the idea of the development is widely shared among stakeholders directly linked to the development or indirectly linked. relevant training takes place with the community at different levels from members, management, policy makers, beneficiaries and stakeholders to arrive at a decision or way forward to proceed.

#### *Implementation*

the community project is initiated in an actual setting. the implementation is first done by the stakeholders or the funder then later gradually left to the community to own the project a common practice in many developing countries. experts point out that participation is very key for a community development project to succeed and that projects should be community driven from inception to implementation for sustainability to occur (richards, 2013).

#### *Assessment and Up scaling*

assessment allows the development system to be guided and massaged by the community, area and market conscious inputs. feedback loops refines the community products and services towards

success attributes of quality services, quality experiences, good value and allow necessary infrastructure around the community.

up scaling should be compelling from adequate assessment of the community. according to brooks (2008) this stage is more engaging and is built upon the authentic values of the community since inception.

## DESIGN APPROACHES

Van Der Ryn and Cowan (2007) describe design as an idea and a process about user needs or wants becoming tangible. Design furtheris described as a strategic problem solving process that drives innovation, builds business success and leads to a better quality of life through innovative products, systems, services and experiences (WDO, 2017).

Design approaches used includes participatory or co-design, design thinking, immersions, empathic design, experience design and systems design among others. These design approaches results to more uptake of sustainable methods focused on design attributes and benefits the end user or community. Sustainability is provided by the broader context of a process that is more responsible, synergetic, contextual, holistic, empowering, restorative, eco-efficient, creative and visionary as described by Bharma and Lofthouse (2007, pg. 29).In a community setting, sustainability is established in the plan as product innovations, operations, value additions, competition, cost effectiveness and environmental responsibility through the intermarriage of systems and their characteristics as social, enterprise and product/service systems (National Research Council, 1999;Ngayu, 2011).

SYSTEM	DIVERSITY	EFFICIENCY	ADAPTABILITY	COHESION
Product system	Multiple product configurations and extensions	Value delivered relative to total cost ownership	End user product, customization, failure recovery, organizational learning, cash reserves	Strong brand, identity, unique product features
Enterprise system	Encouragement of diverse business strategies	Efficient decision processes, resource productivity	Organizational learning, cash reserves	Distinctive corporate culture, strong partnerships
Ecosystem	Biodiversity in terms of species variety	Efficient ecological cycling of energy and nutrients	Tolerance and assimilation of exogenous burdens	Natural habitat boundaries, tightly clustered food web

Socio-economic system	Ethnic, cultural, institutional and political diversity	Cost efficient means for human needs satisfaction	Transparency and flexibility of major institutions	Geographic boundaries, strong national identity
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Table 1. Characteristics of sustainable systems. Source; National Research Council (1999).

The design approaches follow the design process as used in practice. The design process are planned out steps followed to achieve the desired output mainly used to solve complex problems that the cause of issue or resultant action to be taken to solve are not well defined. Different processes are used as per one's understanding of the design tool. The common application follows the definition or exploration of the problem at hand, developing concepts to try solve the problem, testing of the possible solutions and delivering the final output in a convergent and divergent of ideas from abstract issues to tangible solutions.

Example of design process tools;

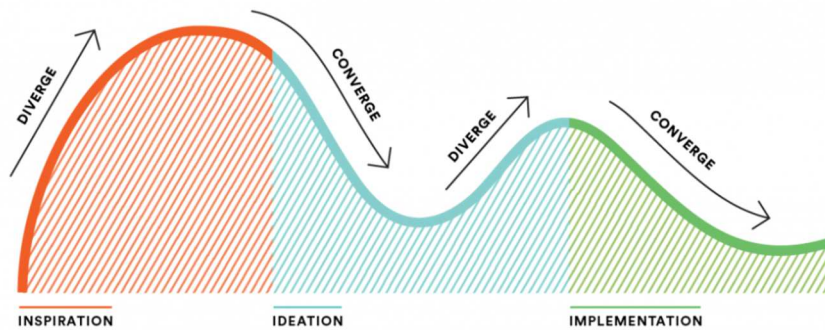


Diagram 2.IDEO Kit: Human Centered Design process. Source; <http://www.designkit.org/methods>.

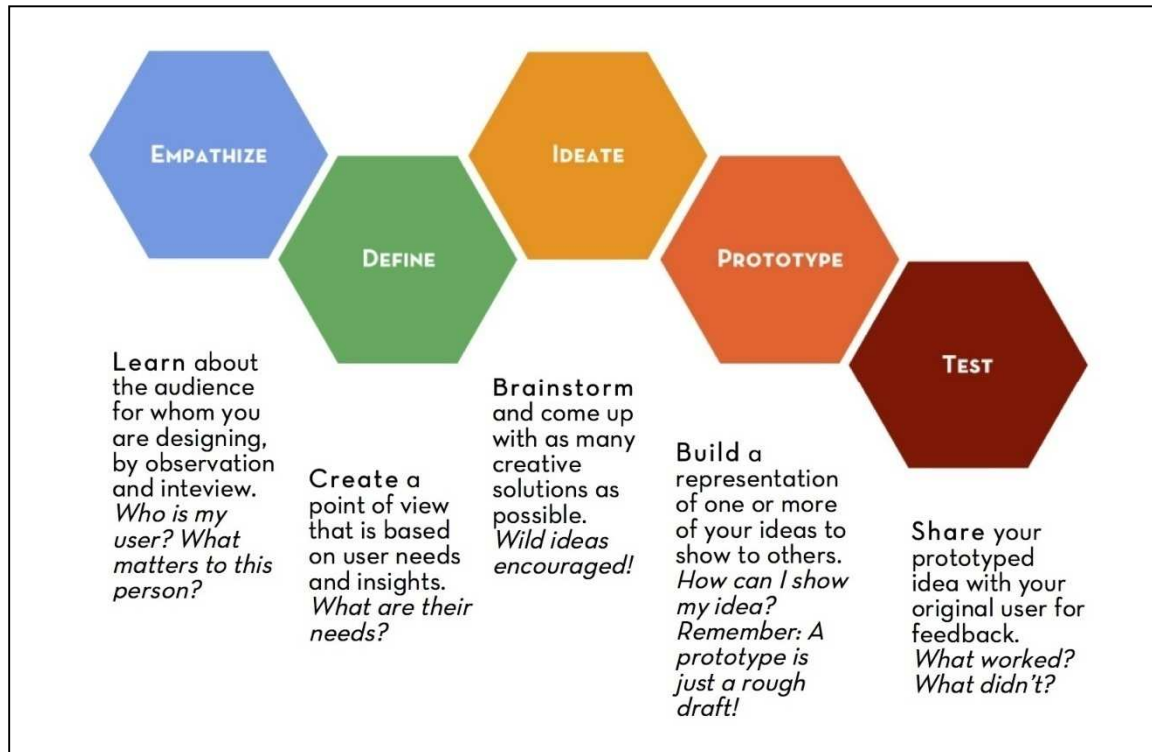


Diagram 3. Design thinking tool kit. Source; Design work book MIT d.lab.

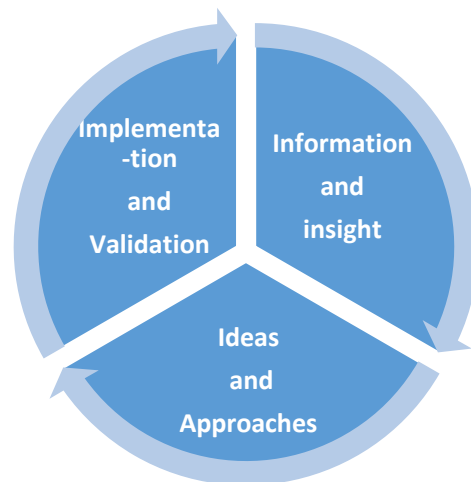


Diagram 4. The Design Spiral. Source; design Work Book MIT d.lab.

The research however focused on immersion design approach and participatory design as key social design tools that could be explored for handicrafts community development. In both processes, the designer is directly involved in context observing, asking and trying as a method of learning by doing and translating ideas to solutions in analogous settings.

#### *Immersion design approach*

The design approach involves getting involved in the communities' activities or problem situations by observing, asking and trying as key tools (Mijthab, 2016). The design approach referred to as



Empathic design in some cases, uses analogous settings to solve what is seen as complex problems and seek inspirations. It is carried out as a form of design research or practice base research led by or with a designer. It focuses on the broad patterns of everyday life that are important and relevant specifically for the conception, design and development of new products or services or systems. Approach can also be used to orientate, frame and inspire a design or development project. Tools commonly used in this approach includes affinity diagrams, coding, contextual enquiries, cultural probes, storytelling, design ethnography and design thinking (Salvador et al., 1999, Nova, 2014).

### *Participatory design approach*

It is also known as Co-Design or Co-Creation. Participatory design is an approach that attempts to actively involve all stakeholders in the design process to ensure the results are needs oriented and usable. Participation in design allows for opportunities, innovations and necessary decisions are not left out and are made by players or stakeholders in the early stages of design (Urban Strategies, 2008).

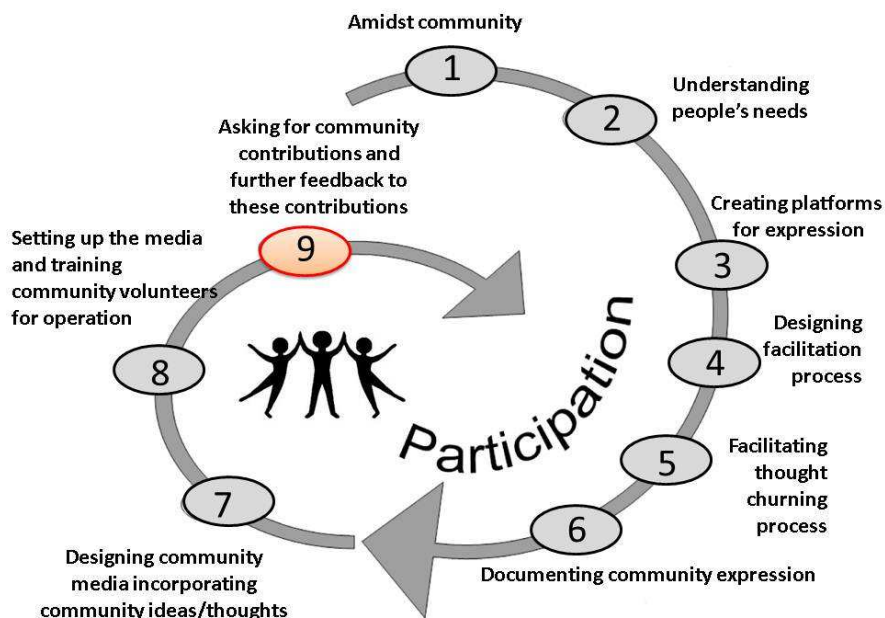


Diagram 5. Representation of a Participatory Design process. Source; Geerts (2016).

The design process involves directly the people you are designing for. The participants are empowered to design and collaborate in the process. The mindset used is that people are experts and they know best about the problem and potential solutions. In community settings, people are far more likely to adopt a solution that they helped to create (Mijthab, 2016).

The steps applied in a co-design process involved identifying the people to participate. A stakeholder's analysis comes in handy at this stage as the relationships, interests and influences are established. An arranged space supplied with necessary instruments act as the creation space. The problems are then openly discussed, sketched out and concepts for possible solutions are built or designed. The people involved are treated like designers and experts. The feedback is captured and further processes are undertaken cooperatively.

Participatory design tools commonly used includes Human centered design toolkit, Product Service Systems design modelling (PSS), community mapping (participatory 3D modeling, multimedia internet based mapping) and Design Oriented Scenarios (DOS) modelling.

## **METHODOLOGY**

The structure used for this paper is the IMRAD method which includes an Introduction, Methods used, Results and Discussions which is a common structural method for scientific papers as suggested by Sollaci and Pereira (2004).

The method used for this research is a Design research, which are mainly qualitative in nature focused on methodologies, practice and development undertaken by people with design abilities for unexpected results are produced thus innovation, invention and creativity terms are used (Hegeman, 2008).

The main research objective was to establish the application of design approaches in handicrafts community development. The other objectives were to determine the processes of community development and to examine the use of co-design and immersion design approaches in community development. The main research question was ‘Can the application of design approaches effectively promote handicraft community development processes?’

The research was carried out in Wamunyu in Machakos County which is a home to an estimated 8,000 handicrafts producers practicing wood carving, weaving and drum making among others. The Wamunyu Handcraft Society was selected as the case study purposively as it boasts of 2,300 handicrafts producers forming the largest group in the region. A sample of 50 people was selected for the study including society management, members and community members who benefit directly from the activities. Expert advice was sort for the research from the County government’s Ministry of Tourism and Culture, promoters and designers who practice social design. Focus groups were used for this purpose.

Data was collected through photographs, videos, field notes, instrument administrations, documents review, participatory community maps and systems diagrams. Data was then analyzed through accurate transcribing, mapping and scenario diagrams.

## **RESULTS**

### **Wamunyu Handicrafts**

Wamunyu area in Machakos County is known as the factory of wood carving and are now celebrating 100years of this achievement of wood carving culture. The craft is practiced by over three thousand artisans both men and women along other crafts such as basketry, beading and drum making. Rural development is highly dependent on this activities and revolves around the products and enterprise systems.



Figure 1&2. Products at the Wamunyu Society showroom. Source- Author.



Figure 3&4. Artisans working in the workshops. Source- Author.

#### Development processes

Development in Wamunyu is undertaken through communal systems practiced by the community under different settings as appropriate and convenient. Development support groups includes the Machakos County Government through the Ministry of Tourism and Culture as well Co-operative unions that the Wamunyu community are affiliated to such as the Machakos Co-operative union and the Handicrafts Society of Kenya.

The community development process revolves around the products produced and the immediate and long term benefits that are as a result to its members.

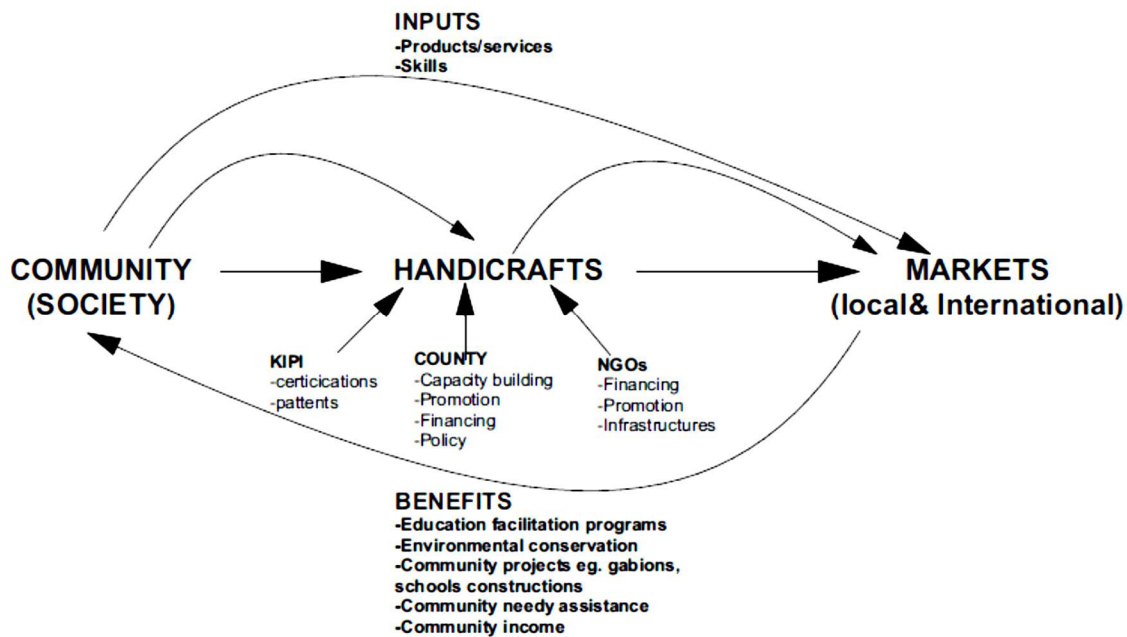


Diagram 6. Wamunyu Community development process. Source, Author.

The County and affiliated societies' development agenda is based on the promotion of the handicrafts products and activities in Wamunyu as well as other areas where handicrafts are practiced through marketing, capacity building, financing and value additions.

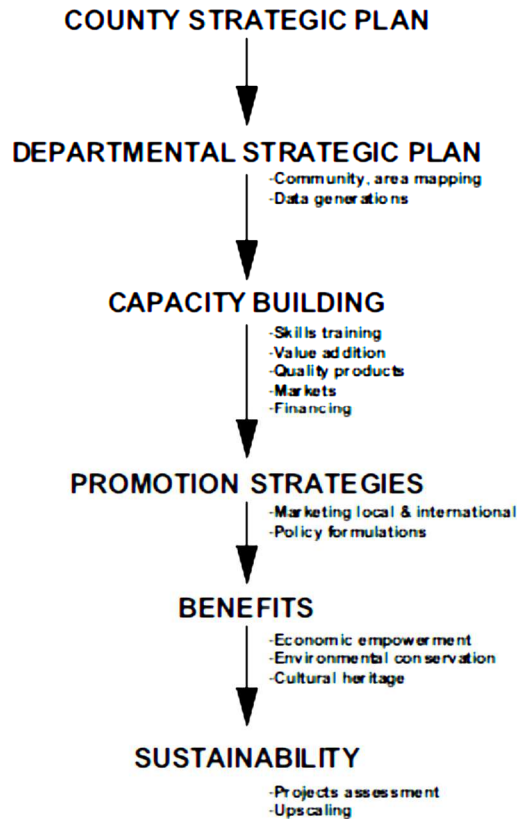


Diagram 7. Machakos development process (County cultural office, 2017).

#### Immersion design approach

The field research was aimed at understanding the existing or expected product, service or systems around the community recorded through sketching, field notes, contextual interviews and photographic evidences. The focus was on the broad patterns of everyday life of the community an important activity for the design development of new services and systems. Participants were homogeneously selected corresponding to the same criteria to provide a better focus and safer conclusions, however, comparative, extreme and beyond users was also selected for study. The researcher participated in the daily activities of the community in an immersion process to speculate new ideas and ground theories. Areas observed that the community is involved in included the acquisition of raw materials, design process for products, tools and techniques used, production, presentation at sales points, packaging and selling of the products. The types and styles of the products were as well recorded. The utilization of the community spaces was also observed.



Figure 5&6. Types of products on display in the showroom. Source- Author.



Figure 7&8 Member of the Muuo Women Group with her products. Source- Author.



Figure 9&10. Artisans working in the workshop shades. Source-Author.



Figure 11&12. Learning by doing. Source-Author.

Inspiration were sort from daily activities of the parcticipants and the methods used to build the community. Anologous settings were used to experience the benefits from other members that are not related to the handicrafts production or marketing. The activity was used to forecast unseen challenges related to the community processes.



Figure 13. Analogous inspiration (Hotel User experience). Source- Author.

#### Co-design design process

Data collected from the community through interviews and questionnaires indicates that 80 percent of the community members in Wamunyu are not involved in the planning process of the community projects. Members forming 15 percent are involved at managerial positions, stakeholders or as committee members in the planning process. 90 percent of the community individuals participate because they are registered members in the projects with 10 percent participating from free will. A large percentage (95%) would like to be involved in the initial design of their community development projects as others (5%) feel the responsibility is given to the community leaders such as the government elected officials citing members of the county assemblies, members of parliament, cultural officers, village elders and church leaders.

Participation are driven by benefits incentives from the community projects. It is also driven by the economic activities association of the projects as the members will participate if it is related to

their daily activities. The majority of the community members participate in handicrafts production and sales forming 85 percent of the community. The co-design tool selected was the Human centered Design toolkit giving the community the chance to source inspiration, ideate new concepts, prototype and represent innovative solutions for their development agenda. Visual models were used to aid the design process considering the rural context where communication challenges were expressed. Participants were drawn from different stakeholders in the handicrafts sector directly involved in Wamunyu community activities. The location of the workshop was at the Wamunyu handicraft society compound as it was easily accessible by all and allowed for different settings of materials to be accessed by many participants at the same time. The workshop was carried out in two key stages for maximum input advantage into the possible solutions provided.



Figure 14. Preparation of visual models and workshop materials. Source- Author.

### STAGE I

The participants were introduced to design techniques for problem solving and a simple design thinking process was agreed upon. The design thinking activities identified possible problems associated with the community development of the handicrafts and quick solutions as observed by the participants written on large sheets of paper pinned on the wall. Quick concepts were sketched out for better understanding of possible solutions agreed by the participants. The process was also used for stakeholders and process mapping.



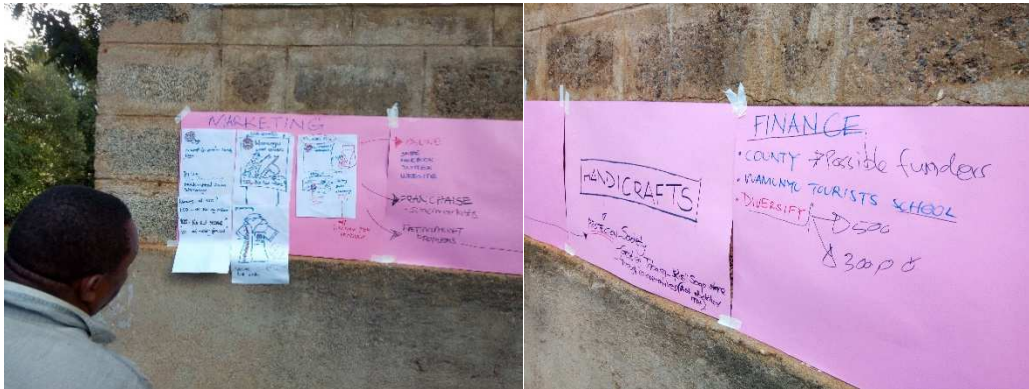


Figure 15&16. Participant on the design thinking process. Source- Author.

## STAGE II

The participants were involved in the design process developing more concrete concepts as to the problems identified in the design thinking process in the earlier stage. The concepts developed included making of drawings of the ideas, selection of working concepts and quick dirty prototyping.



Figure 17. Co-designing process with the marketing team. Source – Author.

The participants sourced out inspiration from their experience in and out of the country, other communities and futuristic visions or expectations (design fiction). The discussions were around what works and what does not work, why it doesn't work and which is the best balance or compromise as the knowledge is shared between stakeholders.



Figure 18 &19. Concept developed for signage. Source- Author.



Figure 20&21. Concept developed for packaging of products. Source- Author.

Participatory 3D (table) models were also used by participants for community space planning as the community handicrafts society existing land had no actual plan when constructing structures, shared spaces or common areas. The participants used the model to redesign the space to accommodate future additions of structures, parking spaces, walkways, maximize space and create scenic views of the area.



Figure 22&23. Images showing existing structures and space use. Source- Author.



Figure 24. Participants taking part using a participatory 3D model. Source- Author.



Figure 25. Resultant space plan from the Co-design process. Source- Author.

### STAGE III

The final stage was to test the end results and refine for application or uptake as a proposal. The stage involved expert advice from a selected team of practitioners in the handicraft development sector and a designer. The team was introduced to design thinking as a method of assessment and evaluation of the participants' outputs.



Figure 26. Expert focus group inputs workshop materials. Source- Author.

Other cases were also looked at as comparative studies around Katangi area and kathiani area in Machakos County for this assessment of outputs. The comparative inputs were used to refine the proposed processes and adopt successful scenarios.



Figure 27&28. Images from other community processes. Source- MCU.



Figure 29. Products from other handicrafts communities. Source- Author.



Figure 30&31. Community products standardization tools. Source- Author.

The feedback derived from all the three stages indicated that design approaches are easy to comprehend and gives the community participation opportunities that lacked in many community development processes. The approach used inspired mindset change towards development processes and future aspirations. Participants cited appreciation to be part of the team as they have always had and withheld ideas for lack of better channels to communicate them through. The feedback from the focus group of experts and the government representative identified this a good approach to implementing community based projects and bridging the gaps as many are initiated by organizations and not from the community. Suggestions that were identified from workshops were time related. Longer durations for the stages were proposed with more participants tackling different issues with given scopes. Parallel approaches were proposed to be used at the same time as participants preferred one more than the other. It was also noted that participants are at different levels of understanding of the processes, more visual tools were suggested for this purpose both audio and visual. It was also proposed that the younger generations to be involved more in such processes for continuity. Men were more actively involved than women in all the design stages, experts attributing this to the cultural setting of the community and unequal education levels among the different genders. Separate workshops and activities were suggested.

## CONCLUSIONS AND RECOMMENDATIONS

Design led solutions offers a great opportunity for African designers in solving what are considered as complex problems in many fields. The multidisciplinary approaches offer better, cheaper and more sustainable tangible solutions as the situation is addressed from different angles and views of the stakeholders. Collaborations for long term partnerships are enhanced leading to sustainable change. Design approaches gives the general community the chance to be innovative in problem solving which is beneficial in sustaining the rural communities both socially and in products design and production. Innovative solutions through design can sustain rural development as it is a people driven approach. Design approach offers creative facilitation and presentation techniques to the disadvantaged rural majority. It also uncovers tacit knowledge providing enriched data for

development, policy and research. Increased participation ensures that the development goals are achievable as the people are the experts of their own systems socially, economically and environmentally. The needs of the community are well captured and addressed in the process.

This paper recommends the adoption of the design process and design approaches for community development from the inception or ideation stage to the last phase which is implementation. The design approaches are also recommended in the project evaluation stages to site and solve emerging problems and developing future agendas or objectives for the community.

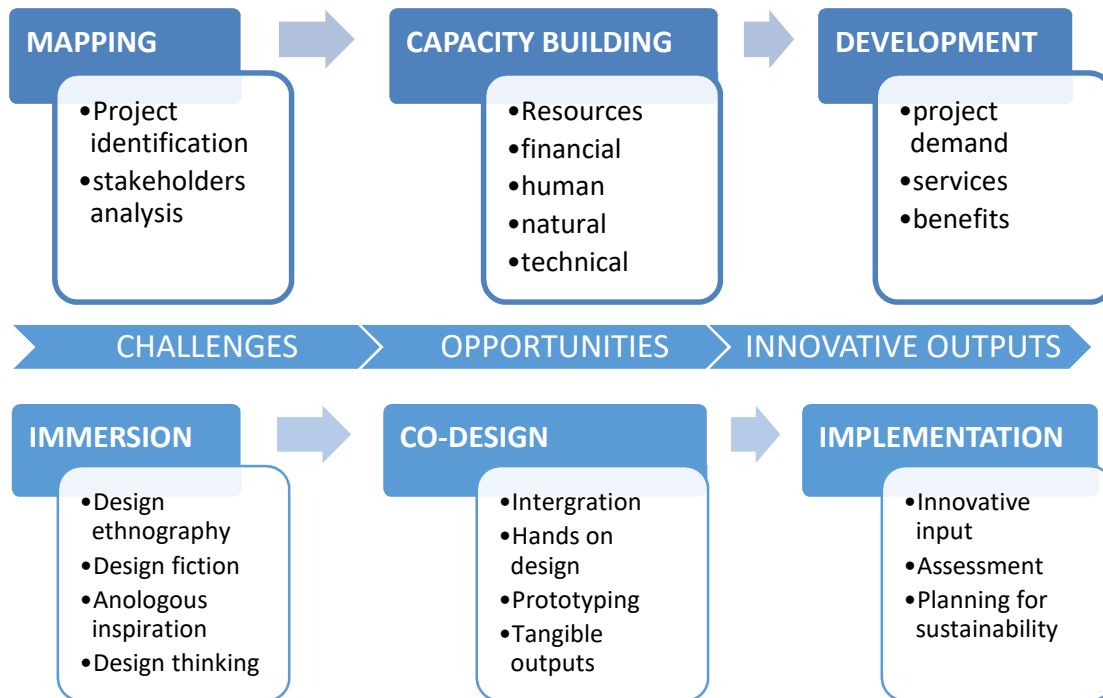


Diagram 8. Proposed Development model. Source-Author, 2018.

The flexibility and needs driven structure of the design process and approaches make it suitable for any field or area of development in any sector that communities are involved in for socioeconomic and environmental sustainability.

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