

Diversity and Tolerance in the Islam of West Africa: Creating Online Resources of Peaceful Muslim Practice

1. Meeting the Statute (20 pts):

Diversity and Tolerance in the Islam of West Africa will make accessible a wide array of currently unavailable materials from and about the countries of Senegal and Ghana, their Muslim communities, and the relations of those communities with the practitioners of other faiths. Building on the innovative, cutting-edge technology of the African Online Digital Library (AODL) developed through National Science Foundation funding this project will create digital copies of unavailable or hard-to-access materials from archives and Africanist researchers in Senegal and Ghana, preserve them in a digital repository in the US, and develop web-based public and educational resources in thematic galleries geared towards international, historical and area studies. Resources and interactive galleries produced by this project will present for students, teachers, and the general public throughout the US, as well as West Africa and the world, the tolerance and diversity of religious practice in Senegal and Ghana, and highlight the dominant tradition of incorporation, pragmatism, and mutual respect that has marked many Islamic societies, from Cordoba in Spain to Baghdad at the time of the Abbasid Caliphate to Ghazna in the heart of today's Afghanistan. Harvard and Michigan State Universities, operating under the umbrella of the West African Research Association, will direct the project. The project will be implemented in concert with Title VI centers at the University of Florida and Indiana University, and with additional faculty contributions from Boston University, James Madison University and Western Washington University. Faculty at each of the

latter institutions will contribute materials to the digital repository and consult on development and use of electronic galleries featuring those materials.

The overarching project goals are to:

- Increase availability of information about diversity of Muslim practices generally and Ghanaian and Senegalese societies in particular
- Increase knowledge about Ghanaian and Senegalese religious, political, and cultural history
- Increase research in Ghanaian and Senegalese religious, political and cultural history

Meeting the Statute:

The *Diversity and Tolerance in the Islam of West Africa* project will make a unique contribution to political or religious agendas. It will also be unique in the nature of the partnership between US-based Africanist researchers and Title VI centers around the country collaborating through an online repository and management system. We believe this project will make a significant and new contribution to the work supported by TICFIA.

The project will implement four of the seven purposes of the TICFIA program:

(a) To support collaborative projects of indexing, cataloging, and other means of bibliographic access for scholars to important research materials published or distributed outside the U.S. – At the core of the *Diversity and Tolerance* is the expansion of the AODL repository database with documents, images, audio and visual materials on West Africa and Islam that are not now accessible in the U.S. The collaboration will greatly advance the availability of quality scholarly materials for teaching and learning about the world’s Muslim cultures through this focus on West

African Islamic traditions. Project participants will work collaboratively using the MATRIX Repository (Repos). This innovative digital object preservation and access system, developed and piloted by MATRIX largely through funding from the National Science Foundation's Digital Library Initiative, will undergird the AODL and facilitate online collaboration, indexing and cataloging as well as online public presentation of the materials obtained by project participants. These benefits are significant because they will offer the collaborators an easy-to-use online interface for uploading their materials from anywhere. As part of the collaboration on cataloging, metadata will be produced using current standards for core records of all contributed materials. The Repos storage model approach allows for easy exporting of the information into XML records that can be translated for sharing with other systems.

(b) To facilitate access to or preserve foreign information resources in print or electronic form – The project will preserve materials from a variety of foreign information sources in West Africa, by creating digital copies of multimedia materials, storing them in a digital object repository following international digital preservation standards, and providing access to the digital copies via the Internet. The project will preserve and provide access to over 100 hours of audio interviews, nearly 1000 pages of interview transcripts, over 200 items from local West African newspapers, over 400 photographs, approximately 20 hours of videotape and more than 100 other archival text or image documents. Preservation requires that electronic copies be made of all materials and then stored in a separate, secure location (in case of flooding, fire, or theft). Selected materials will be duplicated and stored on MSU servers with multiple redundant backup

protections in place. Agreements for repository storage and public access and dissemination will be obtained.

(c) To promote collaborative technology based projects in foreign languages, area studies, and international studies among grant recipients – These repository materials and online galleries will go far to promote foreign language materials and area and international studies online. The materials will be multilingual, and galleries will be designed with the specific interests of students, teachers, and researchers of area studies and international studies in mind. The materials include rich audio, visual, and textual archiving of foreign languages (including French, Arabic, Wolof, Pulaar, Twi, Bamana, Hausa, Serer, Mandinka and Joola); of area studies (dealing with religion, history, political science, peace and dispute resolution); and of international studies (such as international migration; impacts of globalization on societies, relations of religious and government organizations, and Muslim Sufi networks in the world).

(d) To assist teachers of less commonly taught languages in acquiring, via electronic and other means, materials suitable for classroom use – Much of the material made available in this project will be in West African languages. In addition to English, French and Arabic, we will make accessible written, audio and video materials in Wolof, Pulaar, Twi, Mandinka, Serer and Joola for language learners and teachers. In selected galleries it will be possible to see transcriptions and translations, hear native speakers, and practice pronunciation. The materials will be centered on engaging topics and will feature vibrant, living traditions which should serve to engage students and promote study of these less commonly taught languages.

2. Need for the Project (10 pts):

The most critical educational need for national security and world peace in this era is almost unquestionably the need for cross-cultural co-existence, understanding, and democracy. We stand at a juncture of increasing polarization between some Muslim communities and “the West.” Acts of violence led by radical groups claiming to speak for all of Islam have magnified the worldwide perception of the size and following of these groups and their ideas, a phenomenon often exacerbated in the western media by a tendency toward the vilification of Islam. Models of religious co-existence, diversity, tolerance and non-violence in the world are essential to breaching this chasm. As John Paden’s forthcoming case study of Nigeria, *Muslim Civic Cultures and Conflict Resolution*, shows, “there is a real world, peaceful alternative to the “clash of civilizations.”¹ Yet educational resources must go beyond the conflict of Middle East politics to examine “the lived experiences of Muslim communities around the world.” The Islam of West Africa is one of the essential experiences to study and teach.

Informed citizens of the United States do not associate Africa with Islam. And yet fully 20% of the Muslims of the world live in Africa, and half of the African population is Muslim. In many parts of Africa Islamic practice goes back well over 1000 years. Some 100 people, about half of Muhammad’s early following, took refuge in the Christian state of Aksum six years before the emigration from Mecca to Medina in 622 CE, the event that begins the Muslim calendar. They rejoined the Prophet in Medina a few years later, with the gifts and blessings of the Christian emperor. A few years later, in 640 CE, the Christian Orthodox inhabitants of Egypt welcomed the Arab conquest,

¹*Muslim Civic Cultures and Conflict Resolution: The Challenge of Democratic Federalism in Nigeria*, by John N. Paden. Brookings Institution Press 2005 .
<http://www.brookings.edu/press/books/muslimcivculturesandconflictresolution.htm>

preferring Muslim rulers to their demanding overlord in Byzantium. Since those early years Islam has spread through the whole northern half of the continent, sometimes by conquest, more often by trade and the trademark Sufi orders of town and countryside. Swahili merchants took their faith down the coast as far as Mozambique and Zimbabwe, while Malaysian clerics deported by the Dutch East India Company brought Islam into Capetown.

West Africa has had important Muslim communities for over a thousand years. Initially they were mainly merchants; subsequently members of the ruling class joined the ranks. Many of these early Muslims found ways to combine Islamic and traditional religions in creative ways, and gave birth to the traditions of incorporation, toleration, and mutual respect that we demonstrate in this project. We have chosen Senegal and Ghana, two West African countries that embody these traditions and trace their Muslim communities back for many centuries. They demonstrate the dominant pattern of Islam in world history, expressed in 9th century Baghdad, 10th century Cordoba and so many other places, namely learning how to accept religious difference and create productive interaction among Jews, Christians, Muslims and practitioners of other faiths. This positive interaction is characteristic of the Muslims and non-Muslims of Senegal and Ghana today, and contrasts sharply with the dominant images of the media since September 11.

Youssou N'Dour, the world-renowned Senegalese musician, sings of tolerance, diversity and mutual respect in his latest album, *Egypt*. In a number devoted to the Murid Sufi order, its founder Amadu Bamba, and its capital Touba, he sings:

Touba, Land of Peace...

For your salvation
Choose your guidance well
A Way with no resistance
if you want no interference
Go and pray at Bamba's town.

So many disciples in France
They cannot be counted
Wherever you go they are sharing in the study of Bamba

Disciples are also in Casamance
They are all around the world
When they celebrate him at the maggal
All are welcome.

Touba, Land of Peace...

Resources produced for this project will provide tools for understanding the diverse communities that make up the approximately 1.2 billion practitioners of Islam, many of whom live well beyond the Arabophone core of the Middle East and North Africa. In the relatively new states of Africa, Muslim communities have co-existed with “animist” societies and Christian churches created by the modern missionary movement. These long-standing relations and models of peaceful co-existence need to be presented in a way that is meaningful and accessible to the general public.

Any internet search reveals that the vast majority of websites in English on the internet mentioning Islam come from perspectives spanning the religious spectrum and offer an overwhelming amount of ill-founded opinion, defensive posturing, and misinformation. Rarely do they even deal with Islam in Africa. There are some notable educational websites that identify resources on tolerance and Islam, like the US Peace Corps' World Wise Schools (<http://www.peacecorps.gov/wws/guides/senegal/1.html>) and the general materials on Islam at Teaching Tolerance

(http://www.tolerance.org/news/article_tol.jsp?id=273). Other well-researched scholarly materials on African Islam have been gathered onto sites of various scholars and workshop leaders (such as <http://www.empereur.com/Africa/history/hiscolonial.html>), yet these compiled lists of available resources offer very little context and their difficult-to-use layout means that only the most dedicated researchers are likely to make use of them. Web-based material on Senegal and Ghana is similarly underdeveloped.

3. Significance (12 pts):

This project will produce a body of new materials on West Africa, Islam, and cultural tolerance that is exemplary in its content, scope and quality. New resources made accessible through this project will greatly increase the quantity of materials available to teachers, students and the general public. Plus, the expert team of nationally known scholars who will guide and execute the repository building and gallery development guarantee the highest, international quality of the product for this project.

In West Africa, Islam has spread primarily along the centuries-old trade routes of the Sahel and savannah regions. Several ethnic groups that have extensive diasporas throughout many West African countries are equally renowned as traders and as Muslims, including the Hausa and the Juula. In the host cities, fellow traders among local ethnic groups adopted Islam partly because of the advantages it brought in connecting them to networks of trusted trading partners, for example in specific Islamic brotherhoods. In many West African communities, economic links between Muslim and non-Muslim local traders have also brought about close relationships that have lasted over many years.

Why Senegal and Ghana?

Senegal and Ghana provide ideal settings for such an effort. While Ivory Coast and northern Nigeria have very different histories of religious and social practice. Senegal, the “model” French colony in West Africa, is predominantly Muslim, since about 90% of the population are followers of the faith. Ghana, the “model” British colony in its incarnation as the Gold Coast, has a significant Muslim minority that has developed relations of mutual respect relative to the larger numbers of Christians and traditional practitioners.

Senegal, which lies at the western extremity of Africa and primarily within a Sahelian environment, was visited by the author's compatriots, by his visit to the country in 1992. Senegal has a secular tradition of governance, emerging from the French Empire in the days of the Third Republic. Most of Senegal's Muslims belong to Sufi orders linked to other parts of Africa, the Mediterranean world and – in the last two decades – the United States. Their Sufi practice is closely linked to the harmonious rapport that has characterized relations between Muslims and Christians in Senegal over the last two centuries, and it is reflected in the singing of Youssou N'Dour in the Egypt album excerpted above.

Ghana is slightly larger than Senegal and lies on the southern coast of West Africa. Most of its Muslims are of Arab origin, with these identities. Muslim communities are of a much earlier origin but much smaller demographically. They cluster more in the north, but a “diaspora” has been established throughout the country for several centuries. The first Muslims in Ghana were traders who came down from the Sahel zone some seven centuries ago and learned to live as minorities within “pagan” states. This tradition was challenged in the 19th century by reform-minded Muslims inspired by examples from the Sahel zone, and in the 20th century by the Ahmadiyya movement of Indian origin and modernist orientation. Each of

these groups of practitioners, together with their Christian and animist counterparts, form part of the secular state and sustain the traditions of mutual respect.

In Kumasi, Ghana, Muslim soldiers and traders settled in the city shortly after British conquest, and traded in slaves, cattle, kola, grain, and other "Northern" commodities. Such "foreign" traders have occasionally been scapegoated, for example as black market currency traders in 1979 or in the Aliens Expulsion Ordinance of 1969, but remain important market participants. Tensions that have arisen from time to time (over trading issues of competition and control) have been resolved peacefully for mutual benefit. During price control enforcement episodes their market leaders joined together with Asante leaders in negotiations with the government.

Partly because of the patterns of tolerance and diversity, Senegal and Ghana were chosen by President Nkrumah in the 1940s and 1950s. Indeed, Dakar and Accra have become the headquarters for many international organizations and regional development initiatives in West Africa. Both are positioned to take advantage of the Internet revolution in communications. Senegal is second only to South Africa in cyber infrastructure and bandwidth.

Senegal hosts the West African Research Center (WARC), the only American overseas research center in West Africa. UCAD has negotiated linkage agreements and participated in productive exchanges with MSU as they have planned a systemic university-wide reform that will produce a network of community colleges, outreach to K-12 schools, and the hub of regional networks in West Africa on critical frontiers of remote-sensing, natural products research and intellectual property.

Ghana was the first country in Sub-Saharan Africa to gain independence (1957) after many decades. Like the university in Dakar, it holds precious research collections that would be made more widely available through this project. Kwame Nkrumah University, set in the Asante capital of Kumasi, has a stronger “land-grant” orientation. Ghana hosts a wide range of American overseas study programs, because of the richness and diversity of its culture and its traditions of stability and openness. Harvard University, especially through its Committee of African Studies chaired by the Ghanaian scholar Emmanuel Akyeampong, has developed critical linkages with the University of Legon and Kumasi.

The AODL site will be linked to materials created by another project, the African Language Material on original materials published in African languages and supplies an invaluable resource for teachers, literacy trainers, readers, language learners and scholars. Currently the archive contains E-Books in Wolof, Pulaar and Mandinka, collected from authors in Senegal and the Gambia. Other materials in other languages will be up before the end of the calendar year. Files in pdf format are available for download at <http://www.aiys.org/aodl/EBOOKS>.

4. Project Design (12 pts):

Diversity and Tolerance in the Islam of Senegal and Ghana will utilize digital preservation, a state-of-the-art digital repository, and a combination of interfaces for online access through the World Wide Web. Materials preserved and made accessible from Senegal and Ghana will be preserved in a greater repository; and selected materials will be contextualized and framed in thematic galleries focusing on specific aspects of religion, tolerance, and history. The project proposes to develop a rich and easily searched set of multimedia and primary source materials, including over 200 hours of

recorded interviews, over 500 photographs, over 200 items from locally published West African newspapers, approximately 1,000 pages of interview transcripts in multiple languages, and nearly 20 hours of videotape. The project, aimed at improving inter-religious understanding and enhancing mutual respect within Muslim cultures and between Muslim and non-Muslim peoples, will fuse text, image and sound materials and disseminate them worldwide over the internet. This will be accomplished in part through a team of experts in the study of West Africa working together to identify the critical materials unavailable in the US, copy them, preserve them in the African Online Digital Library repository, and make them available and accessible to the public through curated and framed “galleries” of materials focused on important selected themes for Senegal and Ghana.

A broad range of students, teachers, scholars and the public, including K-12 schools and religious associations, will be able to utilize these materials for teaching, research, and general public information. Interactive galleries will feature Senegalese and Ghanaian history and culture presented in a format that seeks to improve inter-religious understanding and enhance mutual respect. Featured materials will be contextualized with introductory materials written for student and general audiences, discussion questions, bibliographic references and selected additional resources. These materials, many of which will come from currently inaccessible research collections, will also serve more advanced researchers.

Galleries of framed materials from the repository will be:

Senegal	Ghana
Islamic practice in the Murid Sufi order	Archives of the King of Asante

Qadiriyya spiritual center of Njaassaan	Interactions of Christians, Muslims and Traditionalists on the Gold Coast
Town of Saint-Louis	Trade and Markets – history and current religious interactions
Development of Christianity in Senegal in the last 200 years	Private secondary and tertiary education through Christian and Muslim missions
Ajami writings and history	

Senegal: Repository Materials and Thematic Galleries

The first Senegalese gallery will feature **Islamic practice in the Murid Sufi order**, built around its founder, Amadu Bamba (ca 1853-1927), author of poetry, songs, texts and treatises in Wolof and Arabic. New materials contributed to the repository and made accessible through this archive will include about ten hours of audio oral history interviews, 40 pages of documentation, and over 20 photographs. Cheikh Babou, who completed his PhD at MSU in 2002, will build this gallery around Bamba’s writings and a selection of images and interviews with well-placed informants. One part of the gallery will focus on the Murid community of New York, whose 30-year history Babou has charted in a recent article. Another part will feature the career of Shaykh Abdoulaye Dieye, a Murid leader who developed a following in Israel, the Indian Ocean islands, South Africa, and the United States, including some Jewish disciples. The repository documents and multimedia resources will be framed with contextual materials on Murid daairas as a form of social organization and important mutual aid groups in "civil society" at the local level. This gallery will be linked to an existing AODL gallery, “Passport to

Paradise,” established by Al and Mary Roberts of UCLA. Leonardo Villalon, Director of the African Studies Center at the University of Florida and a political scientist of Senegal, will contribute materials on Serer adherents of the Murid order.

The second gallery will feature the **Qadiriyya spiritual center of Njaassaan, Senegal**. The Qadiriyya is one of the four Sufi orders present in Senegal. Its major spiritual center is the town of Njaassaan, located not far from Tivaouane, the spiritual center of the Tijaniyya order, in the Kajoor region. The Njaassaan religious community was founded by Bu Kunta, a descendent of the famous cleric Sidy Ahmed Bekhai of Walata in present-day Mauritania. Bu Kunta’s father immigrated to the largely Wolof region in 1818 and married a daughter of one of the local aristocratic families. After establishing himself as a religious leader in Njaassaan in 1884, Bu Kunta increasingly attracted disciples of Bamana background from various areas in present-day Mali. As the community grew, Bamana became the major language spoken in Njaassaan. The birthday of the prophet Mohamed, celebrated each year with religious ritual and prayers, is a day of pilgrimage, bringing disciples from Gambia, Guinea, Mali, Côte d’Ivoire, and Burkina Faso to Njaassaan.

This gallery will bring together audiovisual and print materials on the history and social dynamics of the Njaassaan religious community. New materials will include interviews with members of the Kunta founding family, Njaassaan religious and political leaders, organizers of the annual pilgrimage, some household heads (on history of immigration), and two Muslim women's groups. The project will make available about 25 hours of interview audio, at least 50 photographs and video footage of the annual pilgrimage, and a variety of relevant local newspaper articles featuring accounts of

significant events and issues affecting the community. Maria Grosz-Ngaté, an anthropologist with long-term research experience in rural Bamana communities of Mali, will collaborate with Ms. Toba Diagne Haïdara in compiling and collecting the materials. Ms. Diagne Haïdara is a history teacher at the Lycée Lamine Gueye in Dakar who did her master's thesis on Njaassaan.

A third gallery will feature the **town of Saint-Louis, set close to the mouth of the Senegal River**. Saint-Louis served as the center for all French operations in West Africa until the early 20th century. It hosted the main Catholic church and missionary operations for a considerable period of time, and its “cathedral” continues to dominate the center of the island heart of the town. Over the course of the 19th century Saint Louis acquired a strong Muslim identity, as Moors, Pulaar-speakers from the river and Wolof-speakers from the peanut basin emigrated into the city and established important schools and Sufi lodges. This gallery will feature images of the cathedral, main mosque, other places of worship, meeting houses and cemeteries, the parish register, and newspapers of secular and Catholic orientation. It will also contain genealogies and interviews in Wolof and French from local families with Christian and Muslim members; some photos will show how Saint-Louisians celebrated Christian and Muslim festivals together. We expect to have over 100 items in this repository. David Robinson, an expert on the history of Senegal, will organize the materials of this gallery in conjunction with collaborators from Boston University, the University of Pennsylvania, and Michigan State.

A fourth gallery will feature **the development of Christianity in Senegal in the last 200 years**. Processes of Islamization and Christianization often ran along parallel

lines, and created multiple religious identities within families in the coastal towns and along the southern coast. In the last 5 decades the Dominican Order has developed an ecumenical ministry in Senegal to strengthen the conversations among Muslim and Christian intellectuals. This gallery will be developed by Charles Becker, a historian and researcher with long experience in Senegal and the Catholic church and current moderator of the H-Net electronic discussion network, H-West Africa, and Ibrahima Thioub, head of the History Department at UCAD.

A fifth Senegalese gallery will highlight **texts written in Ajami** and will be an important source of original materials documenting Islamic communities in Senegal. This gallery will be developed by Professor Fallou Ngom of Western Washington University, specialist in Senegalese languages written in Ajami. John Hutchison, Professor of Modern Foreign Languages at Boston University, and Jennifer Yanco, US Director of the West African Research Association, will work closely with Professor Ngom and will be involved in the final selection of texts and the preparation of accompanying materials.

Ajami, the centuries-old practice of using the Arabic script to write other African languages, is wide-spread throughout West Africa, and is used for both religious and secular writings. Failure of those constructing literacy statistics to acknowledge Ajami continues to suppress literacy rates in the sub-region, as noted just this summer by WARA Post-Doctoral Fellow, Professor Fallou Ngom.

Yet, across the Islamic Sahel, Ajami continues to serve as a frequent form for religious writings, annotation of the Holy Koran, archiving, and other written forms of communication. Ajami also serves the important function of uniting peoples with shared languages who are dispersed throughout the Sahel. For example, the Fula-speaking

peoples who live in more than ten countries across West Africa, use Ajami for much of their writing. A wealth of Ajami manuscripts in Pulaar can be found in Senegal and Guinea, and the practice of writing in Ajami is widespread in northern Nigeria among the Fula, the Kanuri and the Hausa, and is also used among peoples along the coast. These are not literatures that can be accessed through the Roman script; they exist as a sort of parallel written tradition—one with greater time depth and often one that is more prolific and more reflective of cultural and religious values.

Because there has been little official support or recognition for Ajami as a written tradition, materials are not widely available outside of the communities in which they are used. Skills in Ajami, however, are essential to an understanding of the many peoples—many of whom are Muslim—who use this as their primary written form. This gallery will begin to make writings in Ajami available to wider audiences and will make possible, by providing pertinent and timely materials, more systematic teaching of this written tradition in African language classrooms in the US and elsewhere. A familiarity with this literature will serve to enhance our understanding of Muslim communities in West Africa. It is certainly in the interest of the international community in its efforts to promote peace and understanding among different communities to have access to this rich literature.

The Senegal Ajami Gallery will open a window on Ajami and the Muslim communities for which it serves as the written tradition by making available a selection of Ajami manuscripts from Senegal in Mandinka, Pulaar, and Wolof, Serer, and Joola. These include manuscripts by the highly prolific Wolofal writer, Serigne Moussa Ka whose work is important among the Mourides. These writings provide evidence of

‘another kind of Islam’, one quite distinct from the fanatical, intolerant images we are increasingly confronted with here in the U.S. and which are not representative of Islam as a religion and certainly not of the Mouride community in Senegal.

In 2004, Professor Ngom collected some 26 Ajami manuscripts in Mandinka, Pulaar, and Wolof, a number of which address the issues of Islam and its practice in the communities from which they hail. They cover several genres, including letters, poems, commentaries and narratives. In August-September 2005, Professor Ngom will conduct and video record interviews with authors of some of these manuscripts, the multimedia files of which will then be associated with the actual documents in the archive. He will also travel to Muslim Serer communities in the Fatick and Thiès regions and the Muslim Joola communities in the Bignona area on the border with the Gambia to explore Muslim Ajami writings there.

Ghana: Repository Materials and Thematic Galleries

Materials preserved and made accessible from Ghana will focus on the following four themes and be organized into educational galleries. Together the repository will include several hundred texts, interviews and still photographs.

One of the Ghana galleries will draw upon **the archives of the King of Asante**, the powerful Akan kingdom, and will focus on the Muslim community in its capital of Kumasi. There Muslims were able to combine worship and learning the faith with submission to the non-Muslim regime. In the 20th century Christianity spread in selected communities, including that of the royal family and often in combination with traditional practices. The gallery will examine the myriad services Muslims have provided in Asante

since the early nineteenth century, particularly in the realms of healing and ritual, and their more general impact on Asante life and society in such everyday spheres as cuisine. Attention will be paid to the specialized services Muslims performed in the royal court. Interviewees will include certain members of the Council of Imams, Muslim and non-Muslim NGO leaders, proprietors of Islamic schools and certain members of the Islamic Education Units, certain members of the Ghana Christian Council, government officials, certain members of parliament, traditional leaders and any that will be determined later as important to the research. Interviews will occur in many localities around the country to make sure that information is representational of the society.

Another gallery will be organized around **the emergence of Christian churches in southern Gold Coast and the interaction of Christians, Muslims and traditionalists**. This gallery will be built around the materials collected by Professors Adu Boahen and Kwame Arhin over careers spanning several decades. Professors Boahen and Arhin are in poor health now, but are ready to make available to Dr Akyeampong the wealth of materials they have amassed since the 1950s. It will also provide some published African language book materials (Twi and Ewe) for the ALMA collection; some of the newspapers, such as the Catholic Standard, were published by the Christian churches.

The third gallery will explore the burgeoning sphere of **private secondary and tertiary education in which Christian and Muslim missions** have played leading roles. The Ahmadiyya Mission has established three prominent secondary schools in Ghana in the Northern, Asante, and Central Regions. Indeed, Dr. Akyeampong did his sixth form (the equivalent of the American high school) in the Ahmadiyya Secondary School in

Kumasi, Asante. These Ahmadiyya secondary schools provide a secular education, and their students are drawn from the Muslim and non-Muslim populations. More recently, an Islamic University has been established in Accra with financial support from the Middle East. Christian missions were pioneers in education in Ghana even before the formal advent of colonial rule. Missionary presence is still prominent in primary and secondary education. In the past decade, Christian missions have set up private universities: the Catholic University in Sunyani, the Presbyterian University in Abetifi, and a Methodist University in Accra. A charismatic church, the International Central Gospel Church founded by Dr. Mensa Otabil, has established a Central University in Accra. It is important to explore the role of these mission-based institutions of higher learning and their impact on religious co-existence. John Hanson, Director of African Studies at Indiana University, will contribute some of his materials on the Ahmadiyya movement to this gallery.

A final Ghanaian gallery will focus on **markets and trading**, addressing both the contemporary and historical dynamics of relations between Muslim traders and Asantes identified with Christianity and indigenous religions. As historic savannah trade routes extended into Asante during the twentieth century, immigrant Muslim traders with various ethnic origins competed for market control with Asante men and women. While tensions remain today, close cooperation can also be seen in managing market affairs and settling disputes. Prof. Gracia Clark will expand on the material on Muslim traders she has collected from interviews and archival sources during previous research on the Kumasi Central Market during a brief return visit there. This research will generate audio and video materials for the gallery, to supplement her written notes and transcripts.

Prof. Clark will interview group leaders and members for the commodities still dominated by Muslim traders (for example, kola, livestock, and grains). She will also interview the individual Muslim traders now working within Asante-dominated commodity groups (for example, oranges and yams), exploring relations within and between these market-based groups. Further interviews will be sought to document areas of Muslim/Christian interaction outside but linked to the market. Owners of wholesale stores near the market, who sell to market traders, and leaders of some of the prayer houses located in and near the market can report on issues affecting their clientele. Individual traders in mixed Muslim/Christian marriages will also be interviewed, along with some of their spouses and children, for insight into the process of creating and maintaining these intimate and long-lasting relationships across religious divides.

Together these nine galleries and the multitude of newly accessible repository materials used to create them will provide a broad and rich view of religious toleration and diversity in West Africa, making an important contribution to US teaching, learning, scholarship, and access to vital resources.

5. Key Personnel (8 pts):

Diversity and Tolerance in the Islam of West Africa brings together a world-renown team of expert researchers and teachers with an internationally known technology center to produce a unique project in foreign materials access. For the Senegalese galleries, MSU Professor David Robinson, an expert on the history of Senegal and Islam and former vice-president of WARA, will work with Cheikh Babou, a Senegalese historian who is an assistant professor of history and African Studies at the University of Pennsylvania; Maria Grosz-Ngate of Indiana; Jennifer Yanco and John Hutchison of

Boston University; West African Research Association Post-Doctoral Fellow Fallou Ngom of Western Washington University, and Charles Becker and Ibrahima Thioub in Dakar to develop, evaluate, and disseminate galleries of materials with the assistance of the expert staff of MATRIX: Center for the Humane Arts, Letters, and Social Sciences Online, and the African Studies Center at MSU. Professor Robinson will devote 4.5 months of his time over the 4 years of this project.

The Ghana galleries will be developed by Emmanuel Akyeampong, Professor of History and Chair of the Committee on African Studies at Harvard. Dr Akyeampong, a native of Ghana and authority on its history and sociology, is also the Vice-President of WARA, the West African Research Association, Dr. Akyeampong has written extensively on the culture of power in Ghana, as well as on the history of religious interaction. In creating the Ghana galleries he will be assisted by Professor David Owusu-Ansah in the History Department of James Madison University. Professor Owusu-Ansah, the author of the Historical Dictionary of Ghana, is also an expert on the history of Islam in Asante and on Islamic education in present-day Ghana. Dr. Mark Sey (Senior Lecturer at the University of Cape Coast, Ghana) will be retained as the Hausa specialist/translator. This is necessary since many of the older generation of Ghanaian Muslim Imams use Hausa as the *lingua franca*. Dr. Akyeampong will also oversee the gallery being developed by Gracia Clark of Indiana. Professor Akyeampong will devote 4.5 months of his time during the first 2 years and 2 months over years three and four of the project.

The West African Research Association (WARA) brings together institutional and individual members in the United States with an interest in teaching and research on

West Africa. WARA has its US headquarters at Boston University and its main regional center in Dakar (WARC or the West African Research Center); it has considerable activities in both Senegal and Ghana. WARA is an important network of outreach for this project and a source of evaluation of the materials and galleries.

Professor Kornbluh's time on this project (4 months over the 4 years of the project) will be completely covered by MSU costshare. MATRIX project manager Scott Pennington will devote 20% of his time to the project during the four years. Cheikh Babou will be paid for 10 days of work during the first twelve months of the project at \$250/day. After the first year, the scholars will serve as an advisory and editing council to for the gallery development. Owusu-Ansah, Clark, Grosz-Ngate, Yanco, Hutchison, Ngom, Villalon, and Babou will be paid as consultants to advise, contribute to, edit, and apply the online galleries of materials in their classrooms.

Cherif Daha Ba, a graduate student at MSU, will receive a half time graduate assistantship for 4 years to assist Professor Robinson on the project. Grant funds are requested to pay for this graduate assistantship. In addition to this assistantship, grant funds are requested to pay for graduate and undergraduate student labor on the project. This work will include both technical construction of the website and a range of content copy editing. Student labor averages \$10/hour.

6. Project Services (6 pts):

Test Beds And Delivering Resources through a Digital Repository

Project investigators have created initial test beds for images, audio, and multilanguage texts. The test beds include an image gallery of audio and video of researchers talking about their work, the collected works themselves, an aural collection

of taped interviews, and Pulaar language texts. The most promising work of the first years of the pilot AODL project has been the two-fold development of Pulaar, French, and English SMIL exhibits and the online system for entering, editing, and manipulating metadata and its associated digital object. These methods will be applied to the collection, accessioning, and display of the materials for this project.

Audio Exhibits

As part of the African Digital Library project, project investigators have created a multimedia corpus and online gallery of a collection of oral history interviews conducted in Pulaar by Prof. Robinson in Senegal in the 1960s. The original analog tapes were digitized, translated into French and English, transcribed, and time-stamped. The transcripts were output in TEI and converted to RealText and QuickTime text for presentation purposes. The digital audio files were processed to achieve the best quality/compression ratio. Multimedia presentations were then assembled by means of SMILE. They combined the original Pulaar audio track as well as time-synchronized French and English translations. The clips were delivered in Real Media and Quick Time formats. The presentations stream easily over a 56K modem connection, offering fairly high audio and visual quality.

As part of the research into delivering rich multimedia resources into limited bandwidth areas, MATRIX staff members have experimented with various codec schemes and compression algorithms for first compressing media and then inserting it into a further compressed delivery method, such as Flash, for final web delivery. Research to this point is promising, as the results of the multi-tiered compression approach are clearer, more appealing for both audio and video delivery.

The enterprise of creating time synchronized multimedia corpora is relatively recent, and most of it has been done by linguists for the purposes of linguistic analysis. Perhaps one of the most interesting such initiatives is the LACITO Archive project. LACITO offers highly sophisticated mark-up and analysis tools and is particularly suitable for linguistic typology research. However, LACITO analysis tools require a proprietary, bandwidth-hungry software package, which, at present, makes them difficult to deliver to audiences with narrow bandwidth connectivity. For the purposes of AODL, investigators have decided to choose the XML DTD built into Transcriber for mark-up and SMIL for online delivery. SMIL (see <http://www.w3.org/AudioVideo>) offers relatively simple and flexible tools for online delivery of time-synchronized corpora. The output of Transcriber can be easily converted (by means of XSL) into RealText, QuickTime Text, and SAMI, and can thus be streamed together with the audio files to a wide audience with minimal bandwidth requirements. The ease with which Transcriber allows for SMIL creation has been of particular usefulness in this project as partners exchange information and train staff to capacitate the creation of multimedia presentations. Transcriber offers a relatively shallow learning curve and is approachable in both concept and design, allowing the formerly complicated process involved in creating multimedia to be learned rapidly and without many hours of formal training. The creation and delivery of SMIL also allows us to deliver only a portion of the presentation, which is particularly useful in delivering portions of long clips found as a result of a web search.

Best Practices in Sound

The choice of appropriate digitization best practices for sound has been influenced by two distinct factors - the technological and the archival. Each of these factors poses a different set of questions and challenges to the project. When deciding on particular specifications of sampling rate, quantization, hardware, etc. our primary technological goal is to provide a digital copy that closely matches the analog original. To this end, it is possible to establish a process that, minimally, reconstructs the entire frequency response of the original while adding as little of the so-called "digital noise" as possible. To achieve this goal, it is sufficient to use the 44,100 Hz sampling rate and a 16-bit resolution. The former ascertains that we capture the entire audible frequency range of the original (based on the Nyquist theorem), while the latter gives us a 96 db SNR (signal to noise ratio). However, from the archival standpoint, it is our desire to preserve as much information (both speech and non-speech) of the original as possible. Current technology makes it possible to use higher sampling rates and resolution. One could fairly easily sample at 96,000 Hz and a 24-bit resolution. This would result in a much increased frequency response of the digital waveform - from 0 to 48,000 Hz, and a dramatically improved SNR of 144 dB. It is our goal to preserve as much information as possible, and using such high specifications allows us to meet this goal given current technology. Digital audio files captured at 96,000 contain over twice as much information as files sampled at 44,000 Hz. Using an over-sampling A/D converter can dramatically minimize the unwanted effects of the quantization error.

Best Practices in Text Digitization

The first year of AODL research focused on Pulaar and specifically on developing a system for encoding Pulaar as a way of researching and exploring the possibilities of digitizing other African languages. This has been a source of great success for the AODL project. At the beginning of the 21st century, after 200 years of writing, and with roughly 20 years of "mass-market" publishing, a rich written (printed and hand-written text) and recorded (speech) heritage has been developed in Pulaar that is in need of preservation, and the digital format seems to be the only viable option.

Two of the most challenging aspects of digital preservation of language data are (1) the digitization process itself, and (2) the representation of language (in this case Pulaar) in a computer-readable format. In the course of our research, we have addressed both of these issues and developed methodologies that are certain to achieve the goals of language preservation in a robust, cross-platform, flexible electronic environment.

We have developed a Unicode keyboard mapping application for Pulaar, based on the Tavultesoft Keyboard Manager. This gives easy keyboard access to all of the Pulaar-specific characters and ensures their proper Unicode encoding. All of our methodologies and tools are open-source and can be freely shared among scholarly and educational organizations.

Best Practices in Image Digitization

A set of best practices has been agreed upon for digitizing master and derivative files for photographs, maps and graphic materials. The focus of the practices is to represent as closely as possible the information contained in the original. Specifications have been set for master, access, and thumbnail images. Recent advances in our

repository development have enabled thumbnail images of a variety of sizes to be created dynamically from the larger access image, thus eliminating the need for creating and storing multiple digital versions of the same image in different sizes. During previously funded pilot work developing AODL, scanning equipment was installed at WARC in Dakar, and staff have collaborated on training and created a strong pilot collection of digitized resources. That collection is in the process of being uploaded into the digital repository created for this project and resources from that scanning effort are already beginning to come online.

Metadata

Project investigators, working from a storage archive model proposed by NASA as the Reference Model for an Open Archival Information System (OAIS), developed an OAIS based delivery “archive” in the first year of work to temporarily store files as they are ingested from participating archives. For this delivery system to be successful, participating archives, one of which is an OAIS compliant MATRIX Digital Repository, are designed to work in a federated system. The second year of this project saw MSU staff focusing on designing and implementing a digital repository for storing and delivering both digital objects (files created by digitizing original physical holdings) and the associated metadata needed to both preserve and locate those digital objects.

Working with digital library initiatives at Library of Congress, New York University, Massachusetts Institute of Technology, Harvard, and the University of California Berkeley, MSU personnel have established a Metadata Encoding and Transmission (METS) XML schema extension for audio metadata. The work on the schema also provides extensions for the ingestion of text, images, and video. The METS

schema provides an encoding format for administrative, descriptive, and structural metadata that is fully compliant with OAIS. Depending on its use, a METS document could be used in the role of Submission Information Package (SIP), Archival Information Package (AIP), or Dissemination Information Package (DIP). The development for the METS extensions is based on a number of existing standards projects including NISO, MPEG7, National Library of Australia, CEDARS, NEDLIB, and LOC, among others.

Originally, as MATRIX began researching and building digital repositories, using the METS schema in an XML format proved more of a challenge than deemed necessary. METS is XML, yet storing and retrieving digital objects in XML was more troublesome than storing the objects, with their metadata, in a database. Seeking reliable, robust server solutions for managing large stores of metadata and digital objects, MATRIX staff designed a MySQL database, created in multiple tables, to which closely mimics the METS design and uses PHP for web delivery. This solution provides AODL partners with a working digital repository today while allowing for easy migration to XML at a future date.

While databases will be used to host the objects and metadata, we anticipate using XML as the format for representing our data to the web because of the multiple tools and deliveries supporting XML. As this project will require extensive searching capabilities on a large amount of data, an XML database is needed to provide acceptable performance. Project data stored in the MATRIX repository will be exported into an XML database, and used for online delivery. Several options are available for XML database servers, but eXist (<http://exist.sourceforge.net>) is our preference because of its portability, speed, XQuery support, and web service interface. We will store our data in

the MATRIX Repository, but export into a hierarchical XML file that will then be imported into eXist for indexing. Using this system allows MATRIX to both provide trusted, proven technology for storage in the repository, but also continue to pursue new technologies and provide a better, more robust end-user delivery method.

Cocoon (<http://cocoon.apache.org>) will be used to define site structure and facilitate data flow because of its portability, use of XML, and simplicity. Cocoon represents the logic behind our web applications, and the use of XSLT allows us to easily convert data generated from eXist into a format the browser understands. And while modern browsers recognize various markup formats, XHTML strict stands out as a standardized XML format that is easily verifiable and avoids sloppy mistakes that are common in HTML. Combined with CSS, XHTML will represent the presentation layer.

The digital repository, as designed for this project, is more than a database for holding files and metadata. The repository was designed explicitly with online entry and administration in mind. IFAN and WARC staff can digitize an object, create the file, and, using only a standard web browser, enter metadata about that object and then upload the object itself into the repository. The repository is currently housed with other MSU servers in the MSU Computer Center, but as the project grows and IFAN and WARC bring their servers online, the repository will be mirrored so that digital objects entered at IFAN, WARC, Accra or Kumasi will be placed onto a local server. All objects will mirror to off-site servers, either in the United States or Senegal, for both backup purposes (archive backup is currently to tape, but repeating information across servers assures redundancy) and to provide the fastest possible download time for users at any location.

This process of entering metadata and digital objects into the repository through a standard web browser window requires very little training of staff beyond the actual digitizing as the browser interface is becoming a familiar working environment for many people; even so, the system developed by MSU staff is powerful enough for all data entry needs associated with this project.

After beta testing the browser accessible repository with partners and rewriting several input forms, all participants agreed that using institution customizable forms would be best for all concerned. MSU staff worked on designing and implemented a method whereby each partner is able to create, edit, and change as often as necessary web entry forms for their staff. Designing these forms takes minimum understanding of the technological side of the repository and has enabled each institution to customize their metadata entry explicitly for their needs and workflow process. For example, IFAN can design forms, online, for their entry staff to use; WARC can design forms, online, for their entry staff to use; all current and future participants will have control over their own data entry method, but each object and its associated metadata will be available across the entire repository. And while having each partner store metadata and digitized objects in a central repository has enabled easy expansion of the AODL site, each partner also benefits through their ability to access this information and design thematic and center specific web sites to complement and enhance the information made available as part of the AODL site.

This browser based, approachable system with a high usability for non-technical staff has proven one of the more exciting outcomes of this project. The web browsing general public will never need to know it exists, but for archivists and digitizing staff, the

administrative side of the repository has allowed them to catalog and add objects for the AODL, with multiple levels of access, without losing intellectual control over their institution's contributions. This retention of intellectual as well as display control is of importance for all of the AODL partners as inputting collected objects into a repository controlled exclusively by an American partner would have brought up multiple political and preservation issues.

7. Resources (12 pts):

This project capitalizes on a rich network of institutions dedicated to promoting scholarship on Africa. Michigan State University, through its African Studies Center and MATRIX, have established close relationships with the African Studies Center at the University of Michigan, Office of International Educational and Cultural Affairs. These exchanges have brought together activists, officials, librarians, archivists and faculty from Nigeria, Ghana, Ivory Coast, Mali and Senegal, for workshops in information technology and its use in a range of civic endeavors from cultural heritage resources development to democratic organizing for women.

Out of this collaboration grew the Africa Online Digital Library (AODL; www.aodl.org) in which is a model project for Africa-US collaboration, research dissemination and digital repatriation of cultural heritage materials. It is funded principally by the National Science Foundation's Digital Libraries program and a companion grant from the Ottawa-based International Development and Research Council.

Harvard's Committee on African Studies (www.fas.harvard.edu/~cafrica) was founded in 1969. It has developed the "Africa Initiative," an interdisciplinary research project that brings faculty and students together around the themes of health and healing; political economy of development; governance, power and authority; realms of knowledge, memory and

contestation; and African creativity - popular culture, performance and art. The Graduate School of Arts and Sciences at Harvard has entered into a new relationship with the University of Ghana entailing student and faculty exchanges, joint research by faculty in the two institutions, co-teaching and curricular development. The first two Ph.D. students arrived at Harvard from the University of Ghana in September 2004 for a one-year stint as full-time students under the “Special Student” category. This is part of a sandwich program leading to a University of Ghana Ph.D. degree.

The West African Research Association, since its founding in 1989, has been working to enhance Research Centers (CAORC, housed at the Smithsonian) and an affiliated member of the African Studies Association, WARA has its overseas research section, the West African Research Center (WARC), in Dakar. WARC provides an institutional presence and lends support to programs sponsored by higher education institutions in the US, assists individual researchers, and is a venue for vibrant scholarly exchange. WARC is the only American overseas research center in sub-Saharan Africa. Details on its activities can be found at www.warc-croa.org.

WARA, WARC and CAORC have collaborated with UNESCO, Columbia University and the An resource for teachers, literacy trainers, readers, language learners and scholars in Africa, the US, and elsewhere. It also provides a means of preservation for African language materials and a counter to assumptions about the absence or weakness of writing in Africa. Currently the archive contains 34 E-Books in Wolof, Pulaar and Mandinka, collected from authors in Senegal and the Gambia. Texts in Susu, Kriolu, Bamanankan and Fulfulde are currently being uploaded, to be followed by materials from Niger and Burkina Faso. Files in pdf format are available for download at

<http://www.aiys.org/aodl/EBOOKS> . The establishment of a new African Languages Program at Harvard University, directed by Dr. John Mugane, holds great prospects for the expansion of ALMA's reach and collections to include language materials from Anglophone West Africa. Among the nine African languages currently taught at Harvard is Twi, the major language in Ghana. Harvard has recently hired a West African linguist, Nike Lawal, a native speaker of Twi and Yoruba.

8. Management Plan (10 pts):

This project will be guided by an advisory board of West African content experts (named in Personnel section) and the technological expertise of MATRIX, one of the leading US humanities technology resource centers. Annual meetings of the PIs and Matrix staff will begin in late 2005. David Robinson and Emmanuel Aykeampong will co-direct the project content and Mark Kornbluh will oversee the project's technological development. Robinson will oversee all the Senegalese galleries and Aykeampong will oversee the materials from Ghana. Robinson and Aykeampong will meet with their respective teams early in 2006 and establish the timetables for the collections and galleries in conjunction with Kornbluh, Scott Pennington and the staff of Matrix. Together they will meet and discuss the materials acquisition as well as the concepts and contents to be presented in gallery form. The advisors will meet annually beginning Fall 2005, scheduled to coincide with field meetings for African studies. This timing will serve the project in many ways, furthering dissemination and usability testing with engaged groups for the project. We expect to have the first galleries available by the end of 2006. By the end of 2006 the first galleries will be available for evaluation by

Africanists at the Title VI centers and members of WARA, while early in 2007 the revised galleries will be made available on the AODL and ALMA sites.

9. Project Evaluation (10 pts):

We will pursue a range of focused assessment activities, all of which will feed back into the design of our project and the development of a program model (Lipse, & Pollard, 1989). Some assessment activities will be formative (Flagg, B. 1990) – intended to be sure that the project tools and activities we put in place are working as we hope and expect. Formative activities will focus on directions from the project management team, user interface design of the library itself, the tools we offer and the additional educational activities and resources we put in place. Techniques for formative assessment will include protocol analysis (interviews with students and faculty while they use materials), user survey forms (post use reviews) and expert/novice comparisons (to develop a model for anticipating changes in tool/library functionality as faculty and students go from naïve users to experts).

Some activities will be summative – designed to measure outcomes central to our project: 1) increased availability of resources on West African Islam; 2) increased knowledge about Islam in Senegal and Ghana in particular; and 3) increased study of Senegalese and Ghanaian history, religion, and model of peaceful culture. Specific outcome variables are identified below for each goal.

Beyond the three specific outcomes described in this proposal, we are interested in the broad development of digital libraries, the nature and structure of the repositories, and their effect on learning, specifically in classroom situations. As part of the AODL repository, the new resources and galleries developed through this project will become

part of MATRIX’s overarching functionality evaluations as they occur. Results from such evaluations will be distributed to the digital library community at large as well as to all our project partners specifically. In the long term, if we are successful in creating tools that make the entire repository easier to use, we would expect to see students and researchers using these repositories much as they may browse in the library. A recent digital library federation study noted that 85% of faculty and student time in the library is spent online. Online repositories are rapidly replacing print sources. We would hope to see students browsing our repository collection in a meaningful way. Analysis of the change in interaction with the repository will become part of the evaluation and proxy for students' critical thinking about their own knowledge. This *Diversity and Tolerance* project, will offer a specific corpus of data to compare uses and impacts of discrete digital library objects versus synthesized framing materials. Finally, as we emphasize in the narrative section on dissemination, we recognize and hope that our assessment activities will also serve to develop a user-base and informal dissemination network for the resources.

Project-Specific Goals	Objectives	Impact Measures
1. Increase availability of information about diversity of Muslim practices generally and Ghanaian and Senegalese societies in particular	<ul style="list-style-type: none"> a. identify specific items from Senegalese partners on Muslim practices and political and cultural history b. digitize and add new resources in African Online Digital Library c. Create framing materials that directly address Muslim practice and diversity and factors of Senegalese tolerance d. publicize and 	<ul style="list-style-type: none"> a. track hits and usage of new web galleries b. compile and assess responses to questionnaire from web users c. review other sources of information available online

	<p>disseminate materials to teachers, students and the public in Africa, the US, and elsewhere</p> <p>e. create online evaluation forms and questionnaire on knowledge</p>	
<p>2. Increase knowledge about Ghanaian and Senegalese religious, political, and cultural history</p>	<p>a. create additional educational materials – discussion questions, activities, further resources – for student and teacher use</p> <p>b. target publicity to fields of history, religion, peace studies, African studies to use materials</p> <p>c. create evaluation form specifically for classrooms</p>	<p>a. track site usage from educational domains</p> <p>b. track adoption of resources into classroom use through target groups and individuals</p> <p>c. qualitatively assess teacher use of resources</p>

<p>3. Increase research in Ghanaian and Senegalese religious, political and cultural history</p>	<ul style="list-style-type: none">a. make new research materials available onlineb. disseminate information about research and institutional partners	<ul style="list-style-type: none">a. track hits and usage statistics from websiteb. track new contacts and visits made to partner organizations
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