THE PROSPECTS AND POSSIBILITIES OF AN INTERACTIVE DATABASE FOR INFORMATION SHARING AND REBUILDING FOR A HISTRICAL AND CULTURAL COMMUNITY

- A SURVEY OF THE DIOCESE OF BUI CHU,VIETNAM -

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ABSTRACT:

Our survey could identify the location of 1,228 churches in Bui Chu diocese and the surrounding area. They are important for Vietnamese Christian culture and architecture. But in recent years, there has been marked deterioration of these church building. It is necessary to take urgent countermeasures to meet this situation. Since 1975 about 60 percent of the churches have been rebuilt on a large scale, been replaced small wooden churches. Not only the deterioration of buildings but also the reconstruction of believers' communities caused these replacement which have been conducted without any consideration for the tradition and culture stemmed from the introduction of Christianity.

Local believers have not shared and exchanged adequately the tradition and culture in their community. Believers have no relative understanding of the architectural worth neither of their own churches nor of the value of the culture which their communities possess, as a result of which each community is tearing down its own invaluable churches.

This paper refers to a utilization of Database system focusing on the characteristic features of believer's communities.

1. Introduction

The diocese of Bui Chu, situated in the north of Vietnam along the Red River delta, is home to a large number of settlements composed principally of adherents of the Christian faith. In these settlements, even today people follow faith-based communal style of living, and a church has been built as the centerpiece of each settlement's belief and community. Many of these churches are medium- to small-scale wooden structures constructed using traditional north Vietnam woodworking techniques similar to those used for Buddhist temples and traditional folk houses. Until now, wars and other political circumstances have almost completely prevented any academic surveys or research from being carried out and little to nothing is known about such things as these churches' distribution, special architectural characteristics, or cultural value. Therefore, since 2007 we have conducted an architectural survey on site. It goes without saying that these churches are important relics to consider when thinking of Vietnam's Christian culture and architectural culture. These churches continue to function as the nuclei of local communities, and must be maintained for the purpose of both preservation and continued use. In this article, we propose a DataBase (DB) system focusing on the particular characteristics of the local communities of believers as one method for maintaining these churches.

2. About the Diocese of Bui Chu

Although in terms of area, the diocese of Bui Chu is the smallest of all dioceses in the north; it has the second largest number of believers (about 380 thousand). If the diocese of Thai Binh, which used to be part of the same diocese as that of Bui Chu before diocese lines were redrawn in 1936, is included, then the population of believers would be the largest in the north (500 thousand). In 1848, when the diocese was first established, it gave shelter to 140 thousand believers or 40% of the total number of believers in the north. The diocese of Bui Chu has been, and continues to be, a central diocese in the northern region. Furthermore, the diocese of Bui Chu was the site of the first missionary activities in Vietnam, which began in the middle of the sixteenth century. Bui Chu Diocese also produced a great number of martyrs as it was the epicenter of the persecutions against Catholics carried out during the time of the Nguyen Dynasty in the nineteenth century. All of these events combine to make the diocese of Bui Chu an important holy ground in Vietnamese missionary history. As though standing in testament to this missionary history, the diocese of Bui Chu is home to many churches which are important in the missionary history of Vietnam, such as The Church of Ninh Cuong, The Church of Phu Nhai, and The Church of Hai Giap.

3. Primary Survey (Complete Enumeration)

3. 1 Survey Summary

Beginning in 2007, we conducted a complete enumeration of all of the churches in not only Bui Chu Diocese (Nam Dinh Province), but also in the adjacent Thai Binh Diocese (Thai Binh Province, Hung Yen Province) and Phat Diem Province (Ninh Binh Province); a total of three dioceses and four provinces in all. The purpose of this complete enumeration was to confirm the location of all of the churches in the area, as well as to identify their current condition. The survey method was as follows—surveyors visited all of the churches and wrote down, in a paper survey ledger, basic information on each church, such as the church's name, address, parish, and decade of construction. In the same survey ledger, surveyors also recorded their visual observations of special architectural characteristics such as arrangement type, plane surface construction, framework type, and materials used in each section. At the same time, surveyors took photographs of both the interiors and exteriors of the churches, and, wherever possible, conducted interviews with concerned partiesin order to confirm decade of construction and other information. Using commercially-available DB software, information and materials obtained for each church in the course of the survey was collated, thus placing the findings in a format which could be perused or searched by item.

3.2 Survey Results

3.2.1 Number of Buildings and Distribution Conditions

The survey confirmed the location of 1,228 churches (of which 298 were made of wood). Broken down by diocese, there were 574 churches in Bui Chu Diocese (of which 137 were made of wood), 375 churches in Thai Binh Diocese (of which 84 were made of wood), and 279 churches in Phat Diem Diocese (of which 77 were made of wood). The diocese of Bui Chu is home to approximately half of all the churches, with a high church construction density in comparison with area. When the distribution conditions are examined, it is found that many of the churches are distributed along the Day River and the Ninh Cuoung River, both of which are tributaries of the Red River, and also within regions along the

	Nam Dinh	Thai Binh	Hung Yen	Ninh Binh	Total
1800-1849	3(3)	1(1)	0(0)	0(0)	4(4)
1850-1899	35(32)	11(11)	5(5)	28(26)	79(74)
1900-1949	145(93)	69(51)	18(10)	98(40)	330(194)
1950-1999	159(7)	98(4)	11(0)	65(7)	333(18)
2000-2007	197(0)	123(1)	29(0)	73(0)	422(1)
unknown	35(2)	8(1)	2(0)	15(4)	60(7)
Total	574(137)	310(69)	65(15)	279(77)	**1228(298)**

Table1. Number of Churches every 50 years since 1800 (/Province)

		I	II	III	IV	V	
		-1882	1883 -1944	1945 -1975	1976-	unknown	Total
Bui Chu	ND	7(7)	170(119)	27(6)	335(3)	35(2)	574(137)
Thai Binh	TB	6(6)	73(55)	9(4)	214(3)	8(1)	375(84)
	HY	1(1)	21(14)	2(0)	39(0)	2(0)	
Phat Dinh	NB	1(1)	120(63)	13(4)	130(5)	15(4)	279(77)
Total		15(15)	384(251)	51(14)	718(11)	60(7)	1228(298)

Table2. Number of Churches in the Divided Periods (/Diocese)

seacoast. In addition, churches built during the early period of missionary work and representative churches in each diocese are also constructed along rivers. In the diocese of Phat Diem, as well, which lies across the Day River from the diocese of Bui Chu, 80% of all the diocese's churches are located within the Kim Son grouping along the Day River. From these results, it was assert that missionary work flourished along rivers in areas covered by the survey, and also that proximity to rivers was taken into consideration when deciding where to construct new churches.

3. 2. 2 Years of Construction

Construction of the churches within the region covered by the survey was concentrated during two different periods—the French Colonial period, from 1883 to 1944 (during which 385 churches were built or 30% of the total number of churches in the region) and the period following the end of the Vietnam War in 1975 and stretching until today (during which 718 churches were built or 60% of the total number of churches in the region). The former period, that of French Colonialism, saw a rapid formation and expansion of Catholic organizations throughout the country, as the government of France, which was a Catholic country at the time, adopted a colonial policy according to which Catholicism was adopted as the official religion of Vietnam. It was during this period that large-scale churches and cathedrals representative of their respective dioceses were constructed, including not only metropolitan churches such as the Cathedral of Ha Noi (1886) and the Cathedral of Saigon (1877), but also churches within the area covered by the survey, such as the Church of Hai Giap (1906), the Church of Ninh Cuong (1901), and the Cathedral of Phat Diem (1891). Over and against the construction of such large-scale churches and cathedrals as these, it can be seen from the fact that approximately 60% of the churches built during the period were medium- to small-scale wooden churches constructed at the settlement level that there was already, by this time, an entrenched community of believers at each individual settlement.

The latter period was one which welcomed a newfound stability following north–south reunification in 1975 following a time of internecine political chaos and wars beginning at the end of the Colonial period. This period was also the time when Vietnam began to achieve domestic economic development in the 1980s due to the successful policies of Doi Moi. Unlike the construction of new churches to accommodate an increase in believers due to missionary expansion, as occurred during the earlier Colonial period, it was more common during the latter period that preexisting wooden churches be torn down and rebuilt into large-scale churches using tiles or RC as their main building materials.
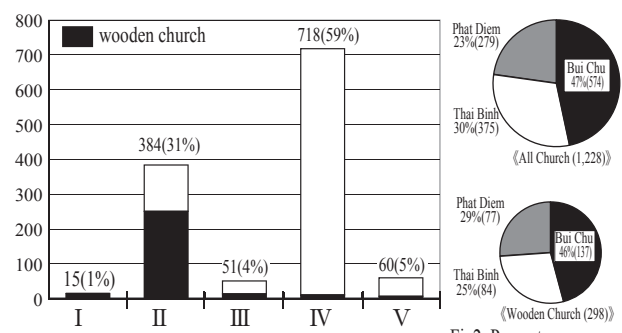

Fig1. Number of Churches in the Divided Periods
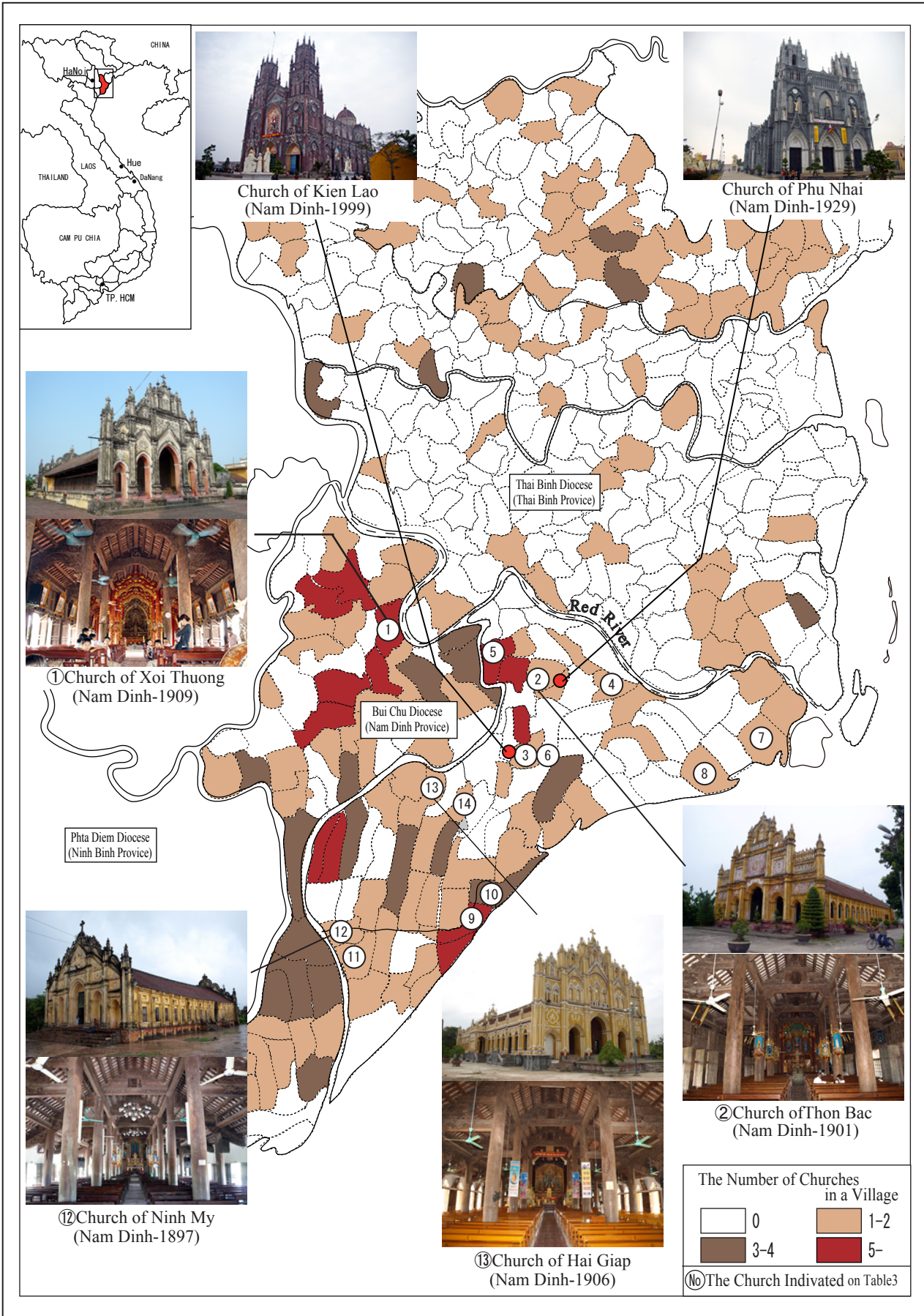
Fig2. Percentage Distribution

Church of Kien Lao
(Nam Dinh-1999)

Church of Phu Nhai
(Nam Dinh-1929)

①Church of Xoi Thuong
(Nam Dinh-1909)

Thai Binh Diocese
(Thai Binh Provice)

Red River

Bui Chu Diocese
(Nam Dinh Provice)

Phta Diem Diocese
(Ninh Binh Province)

②Church of Thon Bac
(Nam Dinh-1901)

⑫Church of Ninh My
(Nam Dinh-1897)

⑬Church of Hai Giap
(Nam Dinh-1906)

The Number of Churches
in a Village

0	1-2
3-4	5-

Ⓝo The Church Indivated on Table3

Fig3. Distribution map of Churches before 1975

4. Secondary Survey (Detailed Survey)

4.1 Survey Summary

Based upon the results of the complete enumeration, for 2 weeks from August to September of 2008 a detailed architectural survey of sixteen representative wooden churches in the diocese of Bui Chu was carried out. This secondary survey consisted mainly of making planar, cross-section and elevation sketches, and then filling these sketches in with actual measurement values obtained at each site. CAD was used to draw up detailed schematic layouts, planar diagrams, elevation diagrams, and cross-section diagrams based upon the prepared sketches.

4.2 About Wooden Churches

The sixteen wooden churches that were surveyed are constructed along floor plans antagonist to the Latin cross-shaped floor plans so often seen in churches in the West, but which instead follow basilica-type floor plans of three or five corridors composed of round wooden pillars aligned in straight rows. Arched entranceways or steeples and brick façades decorated in reliefs or colors adorn the front of the structures. Normally, a front-façaded entranceway serves to separate the inside from the outside of the structure, but four of the sixteen churches surveyed were outfitted with buffering antechambers situated between the façade and the wooden structure itself. The altar is located at the innermost recess of the nave and is decorated across its entire surface in yellow and gold. Certain innovations, such as the removing of pillars in the area of the first nave, have been used to open up the space around the center of the altar in order that ceremonies may be carried out. The structure is devoid of ceiling and the truss structure of the wooden structure is exposed. In addition to traditional trusses (found in eight of the sixteen churches) often seen in Buddhist temples, wherein trusses are interworked with horizontal braces or stringers, there were six churches featuring plate-shaped trusses and two churches featuring bent trusses or diagonal bracing. Although most (thirteen) of the churches featured outer walls made of brick, there were three churches in which wooden joinery was used for all of the outer walls, thus leaving the church completely open. There were also examples of churches in which arch-shaped walls had been built at one span removed from the outer wooden walls, thus creating an outer corridor.

In terms of structural location, examples of churches were found that had their front made to face a pond such that the line of the church's axis would extend out into the body of water, with two bell towers positioned along both sides of the church, a layout often seen in Buddhist temples. Also examples of churches were found which seemed to have been located in consideration of the structure's axes aligning with rivers, ponds, or other bodies of water instead with the four cardinal directions.

The churches in this region, while possessing the basic functions of church architecture, are nevertheless heirs to traditional north Vietnamese architectural culture, such as in terms of positioning format, wooden beam construction methods, and architectural decoration. All of these elements brought together have combined to produce unique and invaluable architectural specimens which can be found nowhere else outside of north Vietnam.
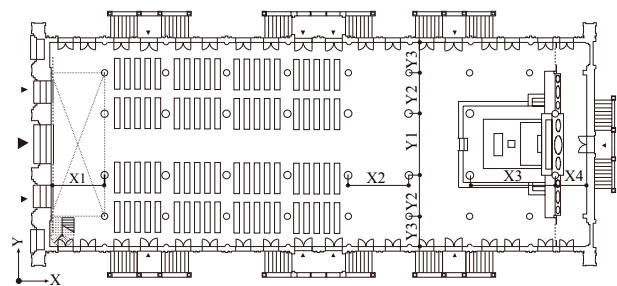

Fig.4　Plan (No13-Church of Hai Giap)

5. The Communities of Believer

5.1 Diocese Organizational Structure

The diocese organizational structure is such that a community of believers at the settlement level is the smallest organizational unit. A collection of communities forms a parish, while a collection of parishes forms a diocese. In other words, all of these units are branches on a tree-shaped class structure, with the bishopric forming the top of the tree. While each settlement has a small-scale church or chapel, masses and other important sacraments are held at the diocese church, where the priest has his rectory or parish house. Normally,

No	Name of Church	Location			Date of completion	X					Y			
		Province	District	Commune		X1	X2*Span	X3	X4	∑X	Y1	Y2	Y3	∑Y
①	Xoi Thuong	Nam Dinh	Nam Truc	Nam Thanh	1909	2,980	3,580*5	5,110	3,725	29,715	3,530	2,264	-	8,058
②	Thon Bac	Nam Dinh	Xuan Truong	Xuan Bac	1901	4,035	4,050*6	5,385	3,025	36,745	4,095	2,685	-	9,465
③	Phe-ro Toa	Nam Dinh	Xuan Truong	Xuan Tien	1880	2,145	2,810*4	5,155		18,540	2,370	2,340	-	7,050
④	Lac Thanh	Nam Dinh	Xuan Truong	Xuan Phu	1914	2,785	4,450*6	8,270	-	37,755	4,200	2,668	1,558	12,652
⑤	Ngoc Tien	Nam Dinh	Xuan Truong	Xuan Hong	1894	3,722	4,343*6	4,122	4,295	38,197	4,558	2,863	1,498	13,280
⑥	Da Minh	Nam Dinh	Xuan Truong	Xuan Tien	1919	2,265	3,425*6	5,060	-	27,875	2,945	1,883	1,066	8,843
⑦	An Lac	Nam Dinh	Giao Thuy	Giao An	1938	4,000	4,070*6	4,835	4,085	37,340	3,690	2,408	1,831	12,168
⑧	Quat Lam	Nam Dinh	Giao Thuy	Giao Lam	1897	4,340	4,510*6	8,100		39,500	4,465	2,886	2,312	14,861
⑨	Van Ly	Nam Dinh	Hai Hau	Hai Ly	1907	2,800	4,110*6	3,830	2,970	34,260	3,826	2,451	1,527	11,782
⑩	Xuan Ha	Nam Dinh	Hai Hau	Hai Dong	1914	2,970	4,075*5	4,098	2,248	29,691	3,550	2,180	1,568	11,046
⑪	Phu Van	Nam Dinh	Hai Hau	Hai Ninh	1914	1,600	4,175*5	6,113	21,90	30,778	3,450	2,190	-	7,830
⑫	Ninh My	Nam Dinh	Hai Hau	Hai Giang	1897	3,520	3,745*6	6,263	-	32,253	3,653	2,433	1,317	11,153
⑬	Hai Giap	Nam Dinh	Hai Hau	Hai Anh	1906	4,355	4,930*6	6,941	2,655	43,531	5,000	3,348	2,226	16,148
⑭	Dong Cuong	Nam Dinh	Hai Hau	TT.Yen Dinh	1896	3,230	4,390*6	4,410	3,610	37,590	4,433	2,879	1,563	13,317
⑮	Tran Xa	Hung Yen	Phu Cu	TT.Yen Dinh	1936	3,215	4,435*6	8,720	2,875	41,420	4,180	2,828	-	9,836
⑯	Khe Than	Hung Yen	An Thi	Ha Le	1886	3,605	3,060*5	3,075	3,280	25,260	3,033	1,595	1,243	8,709

Table 3. A List of Investigated Churches at 2008

one priest serves each parish. The priest resides at a parish house on the grounds of the diocese church, making regular rounds of each church. The bonds which unite communities of believers within the same parish are extremely strong. For example, all believers in a given parish acknowledge the same guardian saint and gather throughout the year for functions and celebrations, even though normally worshipping at different church buildings. Also, because almost all parishes were originally formed when one group of believers split off from a larger, preexisting parish, the members of these once-united parishes continue to communicate and interact with each other. In this way, there is a close network of believers extant within each parish.

5.2 The Present State of Churches and the Communities of Believers

Although the network of believers was already extant by the time of the Colonial period, a Communist government came into power in North Vietnam in 1954 upon the partitioning of the country into northern and southern halves. As a result, a great number of believers emigrated either to South Vietnam or to other countries. The communities of believers were fractured thus losing the functions of these networks. After the 1954 partitioning, war and political chaos brought about an age in which not only the networks, but also the very communities themselves were unable to carry out their former functions. In recent years, however, as society has stabilized and the domestic economy has developed, the communities, as well as their networks, are gradually reclaiming their earlier functions. Much of the impetus behind this recovery has come from believers who emigrated abroad or to South Vietnam during the 1950s. These believers did not emigrate to disparate locations by individual family, but rather en masse as settlements or as entire parishes. Wherever they emigrated, they erected churches dedicated to the same saints they venerated in their hometowns, and held the same celebrations as they held in their native villages. While, for political reasons, interactions and travel between the two regions were difficult, political tensions have eased in recent years and interaction is flourishing. For example, during festival days those from both villages will now participate. In this way, the communities of believers which had temporarily gone into decline during the war have become active again, due to economic development and a stable domestic situation, as well as to foreign aid. The reconstruction of once-disbanded networks of believers is progressing apace in conjunction with this revival.

Within the region covered by the survey, it became clear that church construction, which had temporarily gone into decline, had been experiencing a rapid revival ever since the 1990s. The main reasons for this rebuilding include not only the corrosion of architectural functions, such as the aging of materials and the deterioration of lighting and HVAC equipment, but also a social change witnessed by an overall Catholic organizational (social) revival. As mentioned above, the region covered by the survey is home to a strong network of believers, and this network has been the conduit for large amounts of aid funneled in from believers living abroad, as well as those living in the south of Vietnam. Based upon these funds, rebuilding is proceeding rapidly, with work being done to renovate preexisting wooden structures and

reform them into large-scale churches using RC and brick. During reconstruction, the churches are completely renewed and rebuilt, and they are devoid of special architectural characteristics and traditional techniques which the older churches possessed, such as planar construction, external appearance, materials, or construction methods. Thus, in the region under discussion, the shadow of the Catholic revival is the rapid and ongoing destruction of many wooden churches of great historical and architectural value, with no consideration paid to the worth of these structures.

6. Conception of a Platform-Type DB with the Objective of a Mutual Information Construction

6.1 Believers' Networks and Information Sharing

Despite the existence of networks of believers, history books and old records and materials pertaining to each church have heretofore been stored and preserved only within each respective community, with no publication or information exchange carried out between different communities. Therefore, believers have no relative understanding of the architectural worth neither of their own churches nor of the value of the culture which their communities possess, as a result of which each community is tearing down its own invaluable churches. Effectively putting the believers' networks to use may enable the collection of information and old records and materials stored within each community, and may also promote the sharing of information among believers, which may, in turn, easily limit the destruction and reforms currently being carried out. There is a traditional class organization already in place within the region covered by the survey, with sufficient conditions and a sufficient environment for regulating, maintaining, managing, and administering the enormous amount of information provided by believers.

6.2 Basic Scheme

It is believed that, by incorporating the characteristics of the communities of believers within the region described above into a DB constructed by the authors for the purpose of academic architectural research, and by making proactive use of networks of believers, independent development and expansion can be expected for the reconstruction of the invaluable historical and cultural information of each community rent asunder by war and political chaos.
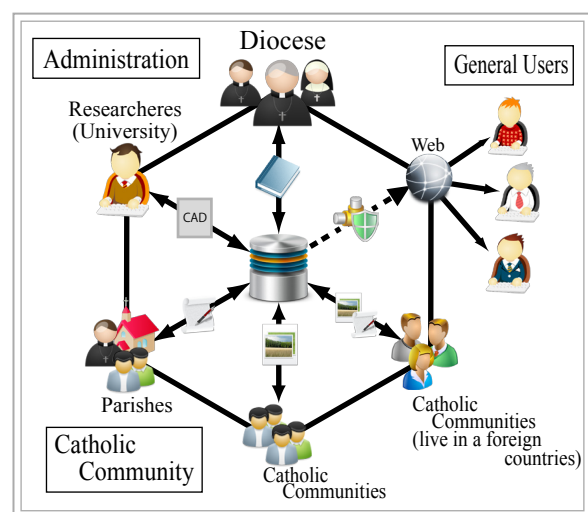

Fig.5 Scheme of Database

Such a DB will be based upon the information gathered by surveyors. A specialized website will be used to collect relevant data and information from believers living both in Vietnam and abroad, and the DB will be constructed while making periodic updates following confirmations on the accuracy and credibility of the information. For this purpose, the DB will be premised upon being publicly available. However, considering the convenience and ease of use of believers, and also security concerns, the DB will not be made available to the general public, but instead only to believers, researchers and a fixed number of other users with understanding of or interest in the cultural assets under consideration.

The data and information taken into the DB will be organized into, at most, three different categories. The first category will contain basic information, such as church names, locations, years of construction, photographs of external appearances, and other information gathered mainly during the primary survey. The second category will contain information from each specialized field, such as prepared data and the results of survey research. Architectural schematics and detailed images of the structures will fall into this category. The third category will contain information gathered during interview surveys, as well as community information such as data and materials provided by believers. According to conception, the information in these three categories will not stand independently, but will form a mutually complementary system in which one set of information influences other sets, and is in turn influenced likewise.

7.3 Future Prospects and Issues

7.3.1 Information Diversification

Although the present structure is specialized for the architectural field, a future structure is envisioned in which clicking on tabs will allow for expansion of selected information. Tab fields, layouts, and structures will, hopefully, be freely configurable by each user, which will allow for the provision of diverse information from a freely changing set of viewpoints. Furthermore, the accumulated diversification of tabs may expand the range of collected data and information; making use of this expanded scope of materials may, in turn, lead to more diverse research proposals.

7-3-2 Use for GIS

As a result of the research conducted it has been made clear that geographical information, such as mountains and rivers, as well as local characteristics, such as climate and traditional culture, are strongly reflected in the churches of each region, making such information extremely valuable and indispensable to any DB. Therefore, at the present time Vietnamese staff is carrying out follow-up work involving the gathering of GPS (global positioning system) information. When this work is complete, precise locations will be identifiable on GISs (geographic information systems) or electronic maps, which will, it is hoped, lead to increased understanding of the positioning relationships between different communities, the relationships between churches and their surrounding environments, and feng shui, northern Vietnam's traditional architectural concept.

7.3.3 Prospects for Generalized Use

The DB outlined in this current proposal is now being prepared as a prototype for Bui Chu Diocese, one of the three dioceses covered by the survey. In the future, it is hoped that workshops are held at as many churches as possible within this diocese, unveiling the results of the survey research and offering explanations and trial usages of the DB while soliciting the opinions of believers and priests. It is hoped that this cooperative work with the communities of believers will not only improve the convenience and operability of the DB, but will also lead to a DB suitable for highly generalized use that might be applied to other architectural cultural assets such as churches in other dioceses, Buddhist temples, and traditional homes.
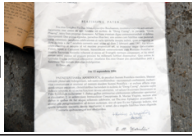
fig 6. A Screen of The Trial Model