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Community's Interest in Brownfield Development: A Case in Melbourne

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Abstract: Brownfield developments may be theoretically and practically approached as the method and process to convert previous industrial land with environmental concern that mitigates problem occurs in the urbanisation processes. Given rapid urban growth and land supply constraint, urban brownfield is becoming attractive to developers and local government. Along with research focus on developer and planner's perspectives, this paper investigates local community's involvement in and its impact on brownfield developments. Local community suffers cost and risk associate with brownfield development which can be easily discounted or even ignored development phases. It is important to understand community's concerns, involvement and impacts. A brownfield project, from Melbourne is studied by questionnaire surveys and face-to-face interviews. The community confirms their awareness of the project although their involvement is low because many claimed their lack of in-depth knowledge of project effects. Obstructions and lack of motivation at local community level in brownfield development impose policy challenge and social risk.

Keywords: Brownfields development; Community involvement; Passive and active responses; Melbourne.

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1 Introduction

Brownfields development is recognised as a process to convert developed land that is obsolete and underused [1,2]. Developing brownfields takes sustainable development as an opportunity (method) to control urban sprawl and preserve urban region and environmental protection strategy, while it contributes to growth and justice [3,4,5,6,7,8,9,10,11,12]. Brownfield enjoys existing infrastructure while it reduces congestion and retains density [3]. Its land use history suggests risk and cost may involve before benefit can be realised. Brownfield is described as underutilized, contaminated infill site with land use change relates to the legacy of Industrial Revolution that inner city was left for industrial. [9] This brings popular definition that "… *abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination*." [13,14,15] It was later amended to: "*with certain legal exclusions and additions, 'brownfield site' means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant*." [13] Its application is limited to policy and finance issues and it is hard to develop generic brownfield definition because states and countries differ in their context and challenge. [15,16,17,18] A definition relevant to this paper is: "*any land or premises which has previously been used or developed and is not currently fully in use, although it may be partially occupied or utilized. It may also be vacant, derelict or contaminated…brownfield site is not necessarily available for immediate use without intervention.*" [19] It implies stakeholder interest, emphasizing contextual aspect of brownfield cases.

Brownfield development often involves high risk as it may trigger high cost for remediation, infrastructure upgrade, legal liability, and local community resistance [1]. Negativity of potential land contamination raises uncertainty even community-wide stigma [13]. Not only is brownfields development risky to landowner and developer, it also concerns broader members of community [17]. It is important to ensure sufficient and effective land use process for brownfield development where local community's concern is satisfied so that risk could be controlled for better outcome to satisfy interests of the broader community.

Relative to research from the perspectives of project team, few has focused on community's impact and importance. Being a key group, community and its support has been mentioned as a contributor to promotion, identification and success of brownfield development [9,14,1,19,17]; though the literature focuses on the private sector with some focus on planning and political perspectives [20]. Local community does not often have strong financial and political incentive, albeit obstacle, to participate and this situation can worsen if affected local residents are immobile during or after the development. So it is important to gain them better understanding of project impact and that their concerns effectively communicated, while gaining the social support. It is useful to improve planning process for local community understanding and participation. Australia has developed its planning process with the opportunity for local community to participate in land redevelopment. This study aims for gaining detailed insights of community participation at the project level.

2 Community's concern of brownfields

Community's role in brownfield development is either broadly discussed in planning process or as a factor contributing to project success. Much is from policymaking and developer's perspectives of environmental contamination, financial risk and little on community wellbeing. Planning as a method to allocate public goods represents policy objective to balance community's diverse land use interests [21]. Participation of local community is recognised main contributor to planning and landscape design and actual needs [22]. Opinions exist on community need compared to other stakeholders due to diverse interests [2,23] that leads to methods of community planning such as the outcome-led approach [23]. Large scale public involvement prevails when

planning authority adopts it to frame the interest of small community groups. Opportunity or problem driven approach supports the necessary of community participation [23]. The concern of community participation is disconnected with brownfields development is not uncommon as similar situation can be found in research of community and social capital development [24]. This means that brownfield project influences wider-scale community welfare by linking it with community interactions.

Regarding community development associated perspectives, the brownfield literature has community's participation as contributor to the social success of brownfield reuse. For instance, the US Environmental Protection Agency identified key themes on sustainable brownfield projects by literature review where idea of community organization and community participation are defined as key feature of the sustainability of brownfields [2]. Community involvement and participation is costly and problematic even though community represents groups of people of varying need and interest. It is argued that community participation could not only "enhances a project's bottom line" but also contributes to design opinion and social support [2]. The study of brownfields program in Florida recognises community's role for responsible development through enhancing accessibility and participation of community [9]. Similar finding is found in nationwide survey in the U.S. that collects responses from brownfield development stakeholders such as developer and planner, where community's support is elected has strong factor of success [14]. Most parties involved in brownfields are aware of the important role of community and its participation.

Community participation may impose negative impact on brownfield development as one may argue community's involvement potentially increases risks because it may object on the project or demand more inputs from developer due to concern of contamination, cost for remediation, liability and so on [19]. It is the lack of information and communication results in negative and passive feeling in community [13]. Specifically, landlords may concern negative outcome of property information exposure involving loss in sales price, regulation change and decontamination cost that leads to information asymmetry and risk to involved parties [20]. Communication efficiency and effective community participation improves project's social performance, especially for greenfield or cleaned sites. Communication among all parties will benefit from plans facilitate community and private interests for communication and distribution purposes. Developer could benefit from having its development plan incorporating community's concern and interest for it to represent community support, so to save on time and effort in reducing objection and to gain planning approval. [9] Theoretically, among other indicators, multi-attribute decision-making process of brownfield developments allocates heavy weight on community support in anticipation that community participation will bring significant positive impact on brownfields project. [19]

The literature recognises community's importance in brownfield process but few has analysed in detail. Considers risk involved in brownfield development, from planning and development perspectives, while the incentive to take risky project concern potential social and financial benefit of the development exceeds the its cost. [2] Much of its benefits could hardly be realised without firstly understanding the problems and opportunities that are associated with the local community, such as regeneration effect of brownfield on it. [2] Without deeper knowledge of community's role and importance, it will substantially limit the scope and depth of current research. This paper will focus on evidence of local community status, involvement and impact in a major brownfield residential development project in Melbourne.

3 Methodology and Design

This study investigates and analyses a case of brownfield residential development. Data was collected by qualitative method including questionnaire-based survey and interviews with the local community and developer of the subject brownfields development. As the earlier sections discussed, what is absent from the

current research is detailed investigation and analysis of community's role and its participation in brownfield development. The investigation should be based on real-life example with detailed information and analysis. An in-depth understanding could be achieved by qualitative method. Although property-by-property research approach has been used frequently in brownfields developments related researches and contains some issues, [2] larger-scale endeavour with greater research area or quantitative method could be considered after some detailed researches are done and some basic understandings are built. Qualitative method could provide detailed and coherent insights by bringing together heterogeneous data, [25] which should benefit study of this nature. Mixed method, though, is popular in property related researches as it combines both the methods to minimise the methods' limitations and provide various perspectives, it is difficult to conduct without basic understanding of the research topic. Qualitative method is adopted in this research, supported by researches adopting same approach in this field. [26]

Development of Alphington Paper Mill Site

The case study is known as Alphington Paper Mill Development (also known as the YarraBend Residential Development) in Melbourne, Australia. The project was selected for the following reasons. Firstly, for a long period Melbourne has developed and established comprehensive planning provision and regulations related to brownfield development activities. Melbourne as a former industrial city not only has large brownfields developments profile and sites but also develops detailed development regulatory framework and community participation procedures [17,27]. The system allows specific planning scheme for each particular brownfield site based on local council management and practices, effectively and qualitatively expressed. Secondly, the Alphington Paper Mill Development (hereafter, APMD) is identified due to its condition, scale, significance and accessibility of data. The APMD site was used by the Alphington Paper Mill Factory, during which the site had been utilised that generated high level contamination. Contamination risk exists for it as residential development site. The site is over 16-hectare of land area, has long project timeline, high project complexity and significant private and social impacts. The local council, the City of Yarra, recognises the project as a major strategic redevelopment within its jurisdiction in the inner Melbourne, which adds the significance of the project. The Council generated specific development plan overlay scheme based on the APMD adding to its significance and community impact. The Council appointed a community reference group in addition to standard community consultation process, which makes the project a suitable case to examine the local community's responses and involvement. Figure 1 provides the location and some contextual information.

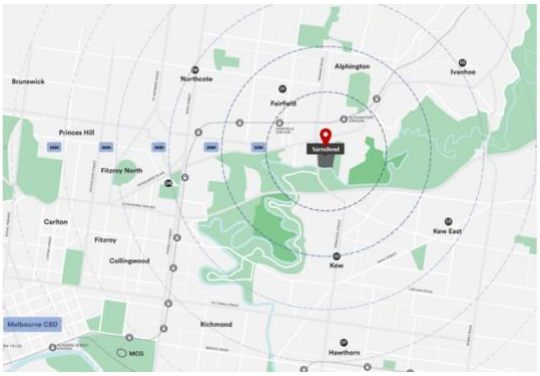

Figure 1. the APMD's location map (source: APMD development map, 2019)

This study designed and conducted questionnaire survey of residents in the local community and face-to-face interviews with community member and developer. 51 individuals participated in the survey, with 29 males and 22 females. The age range is 18-65, and the education background of participants is Bachelor's degree or under. The results are divided under two categories for analysis, residential status as residents who

live in Alphington as local resident and participants who live outside of Alphington as non-resident, and land tenure being property owner and renter. To bring out more in-depth insights, interviews were conducted with one local community club member and developer representatives. By, the it is expected that community involvement and corresponding impacts in the APMD case are revealed through analysing interactions with survey and interview results taking into account the case context and research limitations.

4 Findings and Discussion

Huge project and little difference in response

Results suggest insignificant difference between local and non-local residents of Alphington. 16 out of 28 residents and 16 out of 23 non-residents indicate their early awareness of the APMD in 2015. This relates to the scope and exposure of the project. However, this high-level awareness did not translate into community's direct involvement. Almost half of the residents and non-residents believe their involvement as community member in the APMD is minimum. Of non-residents, it is clear that they have limited access to information and suffers from less direct project impact on their livelihood thus low-level involvement. However, of the local residents, they described their involvement at generally low, with little direct participation to the site's planning and development such as objection submission or being member of Community Reference Group. It is clear that the project is large-scale and complex that should trigger high level community awareness and attention. It appears there is something missing to explain people's being aware and direct involvement. The lower degree of involvement links to lower community impact level. Base on this finding, the paper makes further discussion about community involvement and corresponding impact, given the difference between their awareness and involvement.

Passive vs. active responses

We define awareness as passive response, while involvement as active response. Examples of actively response include making extra effort on self-research, making formal objection to express opinion, being a member of the Community Reference Group that requires regular meetings with councils and developers. Active response requires more time and efforts from the participants and potentially impacts other parties. One significant difference between passive and active response is how people response to project. The former requires less time and efforts from participants while the latter asks the participants to response actively and interact with other parties of the brownfields developments. The two different responses, active involvement and passive awareness, result in different degree of impacts to other parties' decision and brownfield development's outcomes. Actively responsive action shows higher possibility of direct contact between local community and other stakeholders, making it possible for them to understand and consider community's concern. For instance, submitting objection to council is one active response with effect on council and developer. Passive response tends to make small-scale impact. For example, discussing the project among the neighbours does not interact with or impact on other stakeholder's decision.

The community's impact on the project and other parties' decision involve active bargaining, as their concern will not be properly communicated and understood purely by their passive response. Awareness of the project is insufficient for local community's concern be heard and impact be exerted. Under Melbourne's planning system, limited approaches exist for community to express concern and raise question even by local community club. As an interviewee from a community club described: "[concerns raised by community clubs are] selected and monitored by appointed group… before it is discussed [by council and developers] … It's really up to the developer to create things that fit into the guidelines [made by council]." It states the fact that developer and council have different considerations from community. It is not easy for community's

concerns to be expressed and considered.

Interactions with survey results

Two of the survey questions are designed to identify the potential reasons of people's differential response. People are asked to indicate factors they believe obstructed their participation in APMD, results are presented by categories, local residential status and property tenure. 41.2% of participants consider option, "lack of understanding of the project's impacts", is main factor that negatively affects their involvement. Under each sub-category, popular option slightly differs. Of non-residents, 69.6% of participants had low level of active involvement due to residential status. They are not prohibited from involving as non-resident of Alphington, as long as they can explain how the APMD affect them. Living in other suburbs implies relatively longer distance to the project hence lower direct influence. As for participants who are property renter, lack of understanding of project impact is clearly popular. While for participants who are property owner, lack of understanding of potential impacts, residential status and difficulty of expressing opinions are main factors obstruct their involvement. Compared to resident status, tenure does not significantly affect participant's involvement in the APMD.

Participants use the option "Others" to indicate their own factors. This includes lack of time, lack of faith and personal reasons. Participant involvement is negatively influenced by various factors other than their resident status. As the factors that encourage participant involvement, regardless resident status and property tenure, the option "the possible impacts of the development" attract over 60% of all participants. In contrast to the question where participant expresses concern about lacking information about development's impact, participants believed that acquiring information and knowledge of brownfield projects encourage their involvement. Thus, there is the struggle between passive response due to lack of information and active response based on known information. And the option "the responsibility as a community member" from non-residents is 53.6%, which shows how residential status influence community's involvement.

Missing motivations and existing obstructions

It is found that the community responses passively to APMD due to some negative effects, and there are also positive effects encourage their active response. Specifically, the negative effects are obstructions that are existing to discourage participants to progress from being aware to being involved. Sorted by their influence intensity from survey results: (1) lack of understanding of the project's impact (the most influential); (2) residence status; (3) difficulty of accessing information; (4) personal issue (includes time and money); (5) difficulty of expressing opinions through planning process; (6) lack of incentive to involve; (7) project publicity (the least influential factor). While positive factors could encourage community's involvement are the motivations, where participants may response passively due to some of such motivation is missing. These motivations are: (1) possible impact of the project (the most influential factors); (2) responsibility as member of the community; (3) mandatory to be involved as community member. Summarising these motivations and obstructions that influence the community's responses, it is interesting to find that information of potential project impacts plays important role on both sides. As earlier mentioned, lacking information obstructs active response as participants do not know what and how to response actively. While knowing some information could push participants to step forward from passive response, as they know they are affected and need to let other parties know their concerns. However, the change in responding action normally takes time, effort, accessibility and other conditions for the participants to progress from lacking information to knowing of possible impact and estimate its intensity, and these conditions are included in the obstruction list as personal issues.

Developers' perspective

Interview with representatives of the developer, a major stakeholder of the APMD, a different perspective is offered. In the APMD, the developer needs to deal with Council requirements such as parking requirement, facility construction, density so on. As said by one of the representatives: "I think it's important to know that we got requirements with council that we have to meet...we have to meet parking requirements, visitor parking as well…we have requirements for each lot, we have requirements on street parking and restrictions…we are required to do traffic management plans…" Developer is regulated and held responsible for meeting planning scheme and other council requirements on public good. In addition, new residents of APMD have their special concerns that need the developers to accommodate. Developers are responsible for what is required by council and its clients (buyer and investor) much more than the community, which means community's concern could not be taken into account in the development process if not agreed and enforced by the Council (and other policy and legal entities). Community's passive response could hardly deliver its concern to the Council, while it could interact with the Council and express concerns through active response. Under Melbourne's planning system and development control policy, it is difficult, probably infeasible, for developer to directly interact with community without the Council, based on concerns of safety, finance and efficiency so on. Therefore, it is important for the Council and community to identify the missing motivations and obstructions to help community's actively response to brownfield project, hence greater involvement and impacts are generated for better total benefits, as the existing literature has confirmed.

5 Conclusion

This research focuses on local community's role in brownfield development. It provides the following finds or conclusions on community involvement in and impact on brownfield development process: (1) large-scale brownfields development, in terms of its land size, project complexity and potential influence, could attract significant attention from local and surrounding places; (2) community awareness is passive response and it is active response that will exert clear impact; these two types of response are defined based on the different requirements of participants' time, effort, interaction with other stakeholders in brownfield projects; (3) based on participants' response, passive response usually remains small-scale impact while active response results in significant effects to brownfield development; (4) missing incentive and obstruction (or obstacle) can discourage participants to progress from passive to active response, including information of project impact, personal issue, residential status and so on; (5) Our survey shows increasing community's knowledge about project impact could reduce obstruction while encourage active response. These new insights could be studied in more detail through further research.

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