

शहरी विकास

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शहरी विकास तथा भवन निर्माण विभाग

बबरमहल, काठमाडौं



सम्पादक मण्डल



सूर्यभक्त साँगाछे
उप-महानिदेशक



कृष्णप्रसाद दुडुगाना
उपसचिव



दयानाथ शर्मा
प्रमुख लेखा नियन्त्रक



सुरोजराज राजकर्णिकार
सिनियर डिभिजनल इन्जिनियर



दिव्येश्वरप्रसाद श्रेष्ठ
वरिष्ठ अर्थशास्त्री

सम्पादकीय



विगत वर्षमा भैँ आवास, शहरी विकास तथा भवन निर्माणको क्षेत्रमा भए गरेका क्रियाकलापहरूलाई समेटि सूचनामूलक जानकारी पाठक समक्ष पुऱ्याउने उद्देश्यले शहरी विकास तथा भवन निर्माण विभागको अर्ध वार्षिक प्रकाशन “शहरी विकास” को विश्व बसोबास दिवस विशेषाङ्क प्रकाशन गरिएको छ ।

यस प्रकाशनमा समेटिएका सामग्री शहरी तथा आवास विकासको क्षेत्रमा संलग्न विभिन्न सरकारी, गैरसरकारी स्थानीय निकाय पेशागत तथा निजी क्षेत्रका व्यक्ति, संघसंस्थाहरूलाई समेत महत्वपूर्ण हुने नै छ ।

यस वर्ष संयुक्त राष्ट्र संघ मानव बसोबास कार्यक्रमले विश्व बसोबास दिवस मनाउन "Cities : Magnets of Hope" अर्थात् “शहर : आशाको केन्द्र” को नारा दिएको छ । यस नाराले शहरी क्षेत्रहरूमा बढ्दो बसाई सराईको प्रवृत्ति तर्फ हाम्रो ध्यान तान्न खोजेको छ । रोजगारका अवसर तथा शिक्षा तथा स्वास्थ्यजस्ता सुविधाहरूको खोजीमा होस वा ग्रामीण क्षेत्रमा विद्यमान गरीबीको कारणले अथवा हाम्रो देशको सन्दर्भमा हाल देखिएको द्वन्द्व र असुरक्षाजस्ता कारणले होस् शहरी क्षेत्रहरूतर्फ बसाई सराई गर्ने प्रवृत्ति बढ्दो नै रहेको छ । यो कुरा हाम्रो देशको सन्दर्भमा मात्र होइन संसारकै सन्दर्भमा उत्तिकै लागू हुन्छ ।

यस सन्दर्भमा आर्थिक, भौतिक, सामाजिक पूर्वाधार तथा वातावरणीय विकास आदिका माध्यमबाट शहरी विकासका विविध पक्षहरूमा उपयुक्त रणनीतिको विकास गर्नु समग्र देश विकासका पक्षमा आजको प्रमुख आवश्यकता हुन आएको छ । यस प्रकाशनमा समेटिएका विविध लेखहरूले शहरी विकासका यिनै विविध पक्षहरूको चर्चा गरेका छन् ।

यस बुलेटिनमा समावेश भएका लेखहरूमा व्यक्त विचार एवम् धारणा लेखकका निजी हुन् । उक्त विचार तथा धारणाले नेपाल सरकार, भौतिक योजना तथा निर्माण मन्त्रालय, शहरी विकास तथा भवन निर्माण विभाग वा त्यस अन्तर्गतका डिभिजन कार्यालयहरू तथा काठमाडौँ उपत्यकाका नगर विकास समिति आदि निकायहरूको नीति एवम् धारणालाई प्रतिनिधित्व गर्दैनन् ।

- सम्पादक मण्डल

विषय-सूची

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- ओमधरानन्द राजोपाध्याय
सहसचिव, भौतिक योजना तथा निर्माण मन्त्रालय

वर्तमान विश्वमा करिब १० करोड व्यक्तिहरू घरबारविहीन अवस्थामा जीवन यापन गरिरहेका छन् । त्यसैगरी प्रत्येक ६ जनामा एक जनासंग आवास त छ, तर पर्याप्त मानवोचित सुविधा उपलब्ध छैन । संयुक्त राष्ट्र संघको एक अध्ययनले यी तथ्यहरूलाई सार्वजनिक गरेको हो । यसले आवासमा व्यक्तिको अधिकार र पहुँचको प्रत्याभूतिलाई महत्वपूर्ण विषयको रूपमा ग्रहण गर्न आवश्यक भएतर्फ इंगित गरेको छ ।

आवासको अधिकारको सम्बन्धमा प्रत्यक्ष वा परोक्ष प्रभाव पार्ने अन्तर्राष्ट्रिय सन्धि, महासन्धि लगायत राष्ट्रिय नीति तथा कानूनी संरचनाहरू विद्यमान छन् । अन्तर्राष्ट्रिय स्तरमा मानवाधिकारको क्षेत्रमा कार्यरत The European Court of Human Rights तथा The UN Committee on Economic, Social and Cultural Rights, The UN Committee on the Elimination of All Forms of Racial Discrimination आदिले आवासको अधिकारलाई आ-आफ्नो क्षेत्राधिकारभित्र समावेश गरिसकेको छ ।

UNCESCR को General Comment No. 4 ले निम्न ६ अवस्थामा आवासको अधिकार स्थापित गराउन कानूनी फिरादपत्र समेत दायर गर्न सकिने व्यवस्था गरेको छ :

- आवासबाट निकाला हुनसक्ने नियोजित आदेश विरुद्ध,
- आवासबाट कानून बमोजिम निकाला हुँदा पर्याप्त क्षतिपूर्ति नदिइएको विरुद्ध,
- भाडा दर वा आवासको मर्मत सम्बन्धमा तथा रङ्गभेद वा अन्य कुनै विभेदपूर्ण कारण जनाई घर वा जग्गाधनीबाट भएको पक्षपातको विरुद्ध,
- आवासमा साधिकार प्रवेश सम्बन्धमा हुने भेदभाव विरुद्ध,
- पर्याप्त र स्वस्थकर सेवा नदिने घरधनी विरुद्ध, र
- घरबारविहीनहरूको निरन्तर बढ्दो समस्याका सबन्धमा व्यवस्था गर्न कानूनी आदेश जारी गराउन ।

आवासको अधिकार स्वीकार गर्दा राज्यले विद्यमान कानूनी संरचना बमोजिम सम्पूर्ण नागरिकहरूको लागि निःशुल्क आवासको व्यवस्था गर्नुपर्ने हुन्छ कि भन्ने सोच पनि यदाकदा प्रकट भएको पाइन्छ । तर यथार्थ त्यसो भने होइन । राज्यले आवास नीति र अन्य कानूनी व्यवस्थाको माध्यमबाट सबैको

लागि आवास प्राप्त हुन सक्ने वातावरण तयार गरिदिनेसम्म हो । तथापि फिनलैण्ड जस्ता केही मुलुकमा स्थानीय सरकारले असक्षम परिवारहरूको लागि बसोबासको प्रबन्ध गर्नुपर्ने व्यवस्था लागू गरिएको छ । विघटित सोभियत संघमा पनि प्रत्येक नागरिकको लागि राज्यले नै आवासको सुविधा दिने संवैधानिक व्यवस्था रहेको थियो । तर यस्तो व्यवस्था राज्यको निमित्त बाध्यात्मक हुँदैन ।

नेपालको राष्ट्रिय आवास नीति, २०५३ ले सो नीतिको मूलभूत अवधारणामा अन्तर्निहित निर्देशक सिद्धान्तको रूपमा सम्पूर्ण जनताको लागि आधारभूत आवश्यकताको रूपमा आवासको परिपूर्ति गर्ने विषयलाई अङ्गीकार गरेको छ । यस नीतिले आवासलाई केवल उपभोग्य वस्तुको रूपमा मात्र नलिई राष्ट्रको आर्थिक उत्पादनको अभिन्न अङ्गको रूपमा मान्यता दिएको छ । यसका साथै विपन्न वर्गको लागि आवास व्यवस्थाको लागि केही मात्रामा सरकारी स्तरबाट अनुदान उपलब्ध गराउने व्यवस्था समेत सो नीतिमा रहेकोले राज्यले आफूलाई आवासको अधिकारको पक्षमा सबल रूपमा प्रस्तुत गरेको स्पष्ट हुन्छ ।

आवासको अधिकारलाई व्यक्तिको नैसर्गिक अधिकारको रूपमा लिइए पनि संसारभरि सबैभन्दा बढी उल्लंघन हुने मानवाधिकारमध्ये आवासको अधिकार पनि पर्दछ । गरिब मुलुकहरूमा यसको स्थिति भयावह छ, तर सम्पन्न र विकसित मुलुकहरूमा पनि सडकमै बसोबास गर्न बाध्य भएका परिवारहरू हामीले देखिआएकै छौं । आवास विहीनहरूको तुलनामा आवासको 'धनी' हुने सौभाग्य प्राप्त गरेकाहरूले पनि अत्यन्त न्यून वा सुविधाविहीन अवस्थामै गुजारा चलाउन परिरहेको छ ।

आवास सुविधाको उपभोगलाई मूलतः उत्तम, पर्याप्त, अपर्याप्त र आवास विहीन गरी चारवटा अवस्थामा विभाजन गर्न सकिन्छ । सबैको लागि उत्तम आवासको स्थिति वाञ्छनीय हो, तथापि व्यावहारिक रूपमा यसको परिकल्पना गर्न सकिँदैन । विश्वको झण्डै आधा जनसंख्या अद्यापि 'अपर्याप्त' आवासमै रमाउन बाध्य छन् । तसर्थ आफ्ना नागरिकहरूलाई 'पर्याप्त' आवासको प्रत्याभूति गराउनु राज्यको दायित्व हुन्छ । मानवोचित जीवन यापनको लागि अत्यावश्यक सुविधा सहितको

आवासलाई 'पर्याप्त' आवास भन्न सकिन्छ। वस्तुतः 'पर्याप्त' आवासको अधिकार हरेक नागरिकको जन्मसिद्ध आधारभूत अधिकार हो। यसको अभावमा मानिस भौतिक र मानसिक रूपमा स्वस्थ रहन सक्दैन। 'अपर्याप्त' आवासको अवस्थामा न त व्यक्तिले शैक्षिक उन्नति गर्न सक्दछ, न त अपेक्षित रूपमा आफ्नो वृत्तिविकास नै। यस अतिरिक्त आवासको अभावलाई आन्तरिक द्वन्द्व र पारिवारिक कलहको प्रमुख कारकको रूपमा पनि लिन सकिन्छ।

वास्तवमा भन्ने हो भने केवल चारवटा भित्ता र छानाले 'पर्याप्त' आवासको मापदण्ड पूरा हुँदैन। अन्तर्राष्ट्रिय मानवाधिकार सम्बन्धी कानूनले आवासको अधिकारलाई प्रत्याभूत गर्ने सन्दर्भमा आवासलाई 'पर्याप्त' मान्नको लागि प्रमुख रूपमा विभिन्न सातवटा सुविधाहरू उपलब्ध हुनुपर्ने व्यवस्था गरेको छ :

- (१) सेवा, साधन, सुविधा र पूर्वाधारको उपलब्धता : पिउन योग्य पानी, ढल निकासको व्यवस्था, पर्याप्त प्रकाश, हावा, ताप, खाना पकाउने इन्धन, खाद्य भण्डारण, फोहर व्यवस्थापन र आकस्मिक सेवाको उपलब्धता आवासमा हुनु पर्दछ।
- (२) आवासीयता : आवासमा निवास गर्ने सबैको लागि पर्याप्त स्थान उपलब्ध हुनुका साथै गर्मी, सर्दी, वर्षा तथा हावाहुरी जस्ता प्राकृतिक विषमताबाट जोगिने स्वास्थ्यकर र संरचनात्मक दृष्टिले सुरक्षित आवास हुनु पर्दछ।
- (३) स्वामित्व : आवास सुविधा उपभोग गर्ने व्यक्तिले त्यसको निर्वाध भोगचलन गर्न पाउनुपर्छ। कसैलाई पनि (खासगरी महिला र अशक्त तथा बालबालिकाको हकमा) आवासबाट निर्वासन नगरिने कुरामा आश्वस्त तुल्याइएको हुनुपर्दछ।
- (४) औकात : प्रत्येक व्यक्ति वा परिवारले आवासीय प्रयोजनमा गर्ने खर्चले अन्य आधारभूत आवश्यकताको प्राप्तिमा प्रतिकूल प्रभाव पर्नु हुँदैन। संसारभरि नै औकात बमोजिमको आवास उपलब्ध गराउने कार्य गम्भीर समस्याको रूपमा रहेको छ। अव्यवस्थित वस्ती वा सुकुम्बासी वस्तीको विकासको प्रमुख कारक नै आर्थिक अक्षमता हो। भाडाको घरमा बस्नेहरूको लागि पनि आवास भाडा एक समस्याकै रूपमा रहने गरेको छ।
- (५) पहुँच : आवासमा पहुँच सबैको लागि अत्यावश्यक छ। शारीरिक रूपमा अशक्त, वृद्ध वा उत्पीडित र दलितहरूको आवासमा पहुँचलाई प्राथमिकता दिइनु पर्दछ। आवास नीति र कानूनी संरचनाले उपयुक्त व्यवस्था नगरेसम्म छुवाछुत जस्ता विकृतिका कारण आवाससम्म सबैको समान पहुँच कायम हुन सक्दैन।

(६) अवस्थिति : आवासको अवस्थिति त्यसमा निवास गर्ने सबैको लागि अत्यन्त महत्वपूर्ण हुन्छ। रोजगारीको अवसर, स्वास्थ्य सुविधा, विद्यालय र अन्य सामाजिक केन्द्रबाट आवासको अवस्थिति टाढा हुनु हुँदैन। सामान्यतया पुनर्वास गराउँदा सुगम ठाउँको सट्टा सितै वा सस्तोमा जग्गा पाइने प्रदूषित क्षेत्रतिर गराउने प्रचलन छ। यसले आवासको पर्याप्ततामा योगदान पुग्दैन।

(७) सामाजिकता : सामाजिक संरचना अनुकूल सांस्कृतिक सन्तुलनमा कुनै प्रतिकूल प्रभाव नपर्ने गरी बसोबास गराउनु पर्ने हुन्छ। विद्यमान सांस्कृतिक विविधतालाई प्रोत्साहन गर्ने तर कुनै प्रकारको आपसी मनमुटाव वा विद्वेष फैलन नसक्ने गरी आवास नीति र कार्यक्रमहरू तर्जुमा गर्नुपर्दछ।

आवासको अधिकारलाई सम्मान गर्ने क्षमताको विकास गर्न पिछडिएका तथा निमुखा वर्गको लागि सामूहिक तथा किरायाती आवासको बन्दोबस्त गर्नु आवश्यक छ। यसतर्फ आवास क्षेत्रमा लगानी गर्ने आर्थिक तथा वित्तीय संस्थाहरू खासै उत्साहका साथ लागिपरेको पाइँदैन। आवासलाई व्यवसाय होइन, अधिकारको रूपमा स्थापना गर्नु समयको माग हो। यस निमित्त आवास र शहरी विकाससंग सम्बद्ध संस्थाहरूले आवास निर्माणबाट अत्यधिक लाभ मात्र कमाउने सोचमा परिवर्तन ल्याउनु पर्छ। आजकल प्रचलनमा रहेको तथाकथित औकात अनुसारको (Affordable) आवास कति प्रतिशत नेपालीको औकातभित्र पर्दछ, सबैले जाने बुझेकै कुरा हो। त्यसैगरी, आवासमा लगानी गर्ने संस्थाहरूले प्रदान गर्ने आवास ऋणको न्यूनतम अङ्क नै आम नेपालीको औकात बाहिर छ भने त्यसमाथिको चर्को ब्याजदर र महंगो ऋण स्वीकृति प्रक्रियाले आम नेपालीको पहुँच त्यस्तो ऋणसम्म पुग्न सकेको छैन। आवास प्रवर्द्धनकै लागि भनेर स्थापित कतिपय संस्थाले त शहरी क्षेत्रमै पनि सडकले नछोएको जग्गामा लगानीसम्म गर्दैनन्। अर्को कुरा, केही वास्तुविद्हरू किरायाती र न्यून लागतको घर भन्दा आम नेपालीको कल्पनातीत डिजाइनको हिमायती भएर बसेको पाइन्छ। यी सब कारणहरूले आवासको क्षेत्रमा हुने लगानी अन्ततः सम्पन्न वर्गकै हितमा मात्र भइरहेको छ।

आवास निर्माण तथा जग्गा विकासको कार्यमा वित्तीय संस्थाहरूलाई ऋण प्रवाह गर्न प्रोत्साहित गर्ने नीति राष्ट्रिय आवास नीतिले अङ्गीकार गरेको छ। सो नीतिले सीमित आय भएका वर्गको लागि किस्ताबन्दीमा आवास उपलब्ध गराउने ऋण उपलब्ध गराउने कार्यनीति समेत तय गरेको छ। व्यवहारमा सो नीति अपेक्षित तवरले क्रियान्वित हुन भने सकिरहेको छैन।

समकालीन नेपाली वास्तुकलाको विकासमा शहरी विकास तथा भवन निर्माण विभागको भूमिका

- किशोर थापा
उप-महानिर्देशक
शहरी विकास तथा भवन निर्माण विभाग



नेपाली वास्तुकलाको विकासक्रम

नेपाली वास्तुकलाको विकासक्रमलाई केलाउँदै जाँदा हामी लिच्छवीकाल देखि हालसम्मको वास्तुकलासम्म पुग्दछौं । लिच्छवीकालीन शिलालेख तथा चीनियाँ यात्रीको यात्रा वर्णनमा उल्लेख भएको कैलाशकूट भवन र मानगृहको अवशेष नदेखिए पनि चौथो शताब्दीमा निर्मित चाँगुनारायण मन्दिर अझै हाम्रो सामु खडा रहेको छ । ईटा, काठ र ढुंगाको समायोजन गरी अत्यन्त कलात्मक शैलीमा बनेको चाँगुनारायणको मन्दिर नेपालको इतिहासमा “स्वर्णकाल” मानिएको लिच्छवीकालको वास्तुकलाको अद्वितीय नमूना हो ।

लिच्छवीकालीन वास्तुकला मल्लकालमा गएर अभ्र परिष्कृत र व्यापक बन्यो । मल्लकालमा बनेका काठमाण्डौ, ललितपुर र भक्तपुर शहरमा रहेका मन्दिर, दरवार, पाटी पौवा, ढुङ्गेधाराहरू बारे अध्ययन गर्दा ती संरचनाहरूमा क्रमशः नयाँ प्रविधिको प्रयोग हुँदै गएको देखिन्छ । तिनको निर्माणमा परम्परागत सामग्रीको अतिरिक्त फलाम, तामा र शिशाको समेत प्रयोग भएबाट मल्ल राजाहरू भारतको समकालीन वास्तुकलाबाट पनि प्रभावित भएका थिए भन्न सकिन्छ ।

शाहकालको पूर्वाद्धको वास्तुकला मल्लकालकै निरन्तरता जस्तो देखिए तापनि पछि गएर युरोपेली शैली भित्रिएको पाइन्छ । राण शासनका संस्थापक जंगबहादुरको यूरोप भ्रमणपछि त भिक्टोरियाली वास्तुकलाले नेपालमा ठाडो प्रवेश पाएको हो जुन हनुमान ढोकाको गद्दीबैठकमा देख्न सकिन्छ । जंगबहादुरको शासनकाल पछि त उनका भाइहरूका बीच विशाल दरवारहरू बनाउने होडवाजी नै चल्यो । बेलायत लगायत अन्य यूरोपेली मुलुकका भवनहरूको नक्कल गर्दै राणा प्रधानमन्त्री र उनका शाखा-सन्तानहरूले ठूला साना दरवार बनाउन थाले । तिनको सिको गर्दै राणाहरूका भारदार र नातेदारहरूले पनि समाजमा आफ्नो रवाफ देखाउन आफ्ना घरहरू बनाउन थाले । मल्लकालीन वास्तुकलालाई आफ्नो संस्कारको रूपमा लिएका नेपाली कालीगढहरू पनि समय अनुसार रुपान्तरण हुँदै युरोपेली शैलीका भवन बनाउन पारङ्गत भए ।

राणा शासनको अन्त्यपछि नेपाल बाहिरी विश्वका लागी खुला भयो । राणाकालमा इन्जिनियरिङ्ग पढ्न विदेश गएका इन्जिनियरहरूले त्यही बेलादेखि नै आफ्नो कौशल देखाउन थालिसकेका थिए । विदेशबाट पढेर आउने इन्जिनियरहरूले आधुनिक वास्तुकलाका विभिन्न प्रयोगहरू गर्दै देशका विभिन्न भागमा भवनहरू बनाउन थाले । राणाकाल पछि अधिकांश नेपाली इन्जिनियरहरू भारत तथा तत्कालीन सोभियत संघबाट पढेर आएका हुन् । त्यसले गर्दा भारतको आधुनिक वास्तुकलाको शैली तथा प्रविधिको प्रयोग हुनु स्वाभाविकै हो । त्यसैगरी तत्कालीन सोभियत संघबाट पढेर आएका नेपाली इन्जिनियर तथा आर्किटेक्टहरूले देशमा विभिन्न खाले भवनहरूमा आफ्नो शीपको प्रयोग गर्न थाले । आर.सी.सी. प्रविधिसंगै शुरु भएको समकालीन नेपाली वास्तुकला विभिन्न देशबाट पढेर आएका नेपाली इन्जिनियरका शैली तथा प्रविधिको प्रयोगशाला बनेको देखिन्छ । २००७ सालदेखि २०१६ सालसम्म भारतीय शैलीले प्रभावित नेपालको वास्तुकला त्यसपछि बेलायत, अमेरिका, स्वीट्जरल्याण्ड, इजरायल, अष्ट्रिया, जर्मनीका इन्जिनियर र आर्किटेक्टका नवीनतम् शैलीबाट प्रभावित भएको देखिन्छ । विदेशी सहयोगसंगै नेपाल भित्रिएका ती प्राविधिकहरूले नेपालका विभिन्न स्थानमा आ-आफ्नो शैलीमा भवन बनाए । उदाहरणका लागि स्वीसहरूले जिरीमा, अमेरिकनले किर्तिपुर र ठिमीमा, रसियनले जनकपुरमा, बेलायतीहरूले धरानमा, जापानीहरूले सिन्धुलीमा विभिन्न आयोजना सञ्चालनका लागि भवन बनाएका छन् । पछि उनीहरूसंगै काम गर्ने नेपाली आर्किटेक्ट र इन्जिनियरहरूले अन्य भवनहरूमा त्यस्ता शैलीहरू दोहोर्‍याउन थालेको देखिन्छ । वि.सं. २०२५ पछि आर.सी.सी. प्रविधिले व्यापकता पाएपछि सार्वजनिक भवनका अतिरिक्त निजि भवनको डिजाइन शैलीविहीन बन्न पुगेको देखिन्छ । विभिन्न किसिमका प्रयोग गर्ने नाममा वास्तुकलाका मौलिक सिद्धान्तका पालना नगरी

बनाइएका भवनहरू नेपालका विभिन्न शहर र गाउँमा भेटिन्छन्। बेढङ्गको डिजाइन र कमसल प्रविधिले गर्दा ती भवनहरू जीर्ण बनेका मात्र होइनन् कि तिनले आफ्नो वरिपरिको वातावरणलाई समेत कुरूप बनाएका छन्।

भवन विभागको उदय

चन्द्र शमशेरको पालामा “बनाउने अड्डा” बाट शुरु भई नेपाल सरकारको विभागस्तरको मान्यता पाएको भवन विभागले आफ्नो स्थापना कालदेखि नै सरकारी र अर्धसरकारी भवनहरूको निर्माणमा आफ्नो भूमिका निर्वाह गर्दै आएको देखिन्छ। नेपालकै पहिलो आर्किटेक्ट गङ्गाधर भट्टले भवन विभागमा सेवा प्रवेश गरेपछि सिभिल इन्जिनियरहरूले सकी नसकी भवन डिजाइन गर्नुपर्ने अवस्थामा सुधार भई आर्किटेक्टद्वारा डिजाइन गर्ने र सिभिल इन्जिनियरद्वारा निर्माण गर्ने चलन शुरु भयो। वि.सं. २०३० पछि भवन विभागमा भारत र रुसमा पढेका आर्किटेक्ट र इन्जिनियरहरूको बाहुल्यता हुनथाल्यो। एकातर्फ आर.सी.सी. प्रविधिको र अर्कोतर्फ हरिसिद्धि, भक्तपुर र लुम्बिनीमा स्थापना भएका आधुनिक ईटा टायल कारखानाबाट उत्पादित ईटाको व्यापक प्रयोग संगै समकालीन नेपाली वास्तुकलाले कोल्टो फेरेको देखिन्छ। भवन विभागमा त्यतिबेला कार्यरत आर्किटेक्ट उत्तम कृष्ण श्रेष्ठद्वारा डिजाइन गरिएको त्रिभुवन विमानस्थलको अतिविशिष्ट कक्ष (भि.आइ.पि.लाउन्ज) र सहकारी प्रशिक्षण केन्द्र, त्यतिबेला कै अर्का आर्किटेक्ट नारायण प्रसाद भट्टराईद्वारा डिजाइन गरिएको कृषि विकास बैंकको केन्द्रिय कार्यालय, प्रो.केन्जो टाङ्गेद्वारा डिजाइन गरिएको र लुम्बिनी क्षेत्रमा निर्माण गरिएको संग्रहालय आदिले अन्योलको स्थितिमा रहेको समकालीन नेपाली वास्तुकलालाई एउटा दिशा निर्देश गर्नु सहयोग पुऱ्याएको पाइन्छ। त्यति नै बेला संयुक्त राष्ट्र संघीय सहयोग कार्यक्रम अन्तर्गत भवन विभागमा कार्यरत अष्ट्रियन आर्किटेक्ट कार्लपुस्चाले ‘चाइनिज ईटा’ को प्रयोग हुनेगरी डिजाइन गरेका त्रि.वि. हाता भित्रका सेडा भवन, छात्रावास, सांस्कृतिक केन्द्र तथा तारागाउँ होटल आदि लगायत राजधानीका विभिन्न ठाउँमा निर्माण गरेका निजी घरहरूले समकालीन नेपाली वास्तुकलामा नयाँ आयाम थपेका थिए। ‘चाइनिज ईटा’ लाई भवनको बाहिरी गारोमा प्लाष्टर नगरी जस्ताका तस्तै प्रयोग गर्ने चलनको शुरुवात भवन विभागबाटै शुरुवात भई पछि सर्वसाधारण जनताले समेत ग्रहण गरेका हुन्।

भवन विभागको परिवर्तित भूमिका

देशभरका सम्पूर्ण सरकारी र अर्धसरकारी भवनहरूको डिजाइन तथा निर्माण गर्ने जिम्मेवारी पाएको भवन विभागको कार्यक्षेत्र विस्तार हुँदै गई शहर निर्माण गर्ने तथा विभिन्न सांस्कृतिक तथा धार्मिक क्षेत्रको संरक्षण गर्ने कार्य समेत सो विभागले हेर्ने गरी जिम्मेवारी तोकियो। तत्पश्चात विभागका अनुभवी आर्किटेक्टहरू नयाँ शहरहरूको भौतिक योजना तर्जुमा कार्यमा व्यस्त हुनथाले। जसलेगर्दा वास्तुकला विकासमा विभागको ध्यान पर्याप्त रूपमा पुग्न सकेन। त्यही समयमा देशका विकास आयोजनामा विदेशी सहयोग भित्रिन थालेपछि विभिन्न मन्त्रालय तथा विभागका भवनहरूको डिजाइन गर्ने काम विदेशी परामर्शदाता र तिनका समकक्षी नेपाली परामर्शदाताबाट हुनथाल्यो। विभिन्न कारण देखाई भवन विभागलाई सो कार्यबाट वञ्चित गर्ने प्रयास गरियो। बजारमा स्वदेशी परामर्शदाता आर्किटेक्ट सजिलै उपलब्ध हुने भएपछि भवन निर्माणमा उनीहरूको बर्चस्व कायम हुनु स्वभाविकै हो। विकास कार्यमा निजी क्षेत्र अग्रसर हुनु उत्साहप्रद कुरा हो तर देशमा कस्तो वास्तुकलालाई प्रवर्द्धन गर्नु उचित हुन्छ भन्ने विषयमा नीति निर्माण गर्ने र केही नमूना भवनहरू बनाएर देखाउने कार्य भने भवन विभागकै हो। विशेषगरी २०४५ सालको महाभूकम्प पछि विभागको ध्यान भवन निर्माण संहिता तयार गरी लागु गर्ने तर्फ केन्द्रित रहेको देखिन्छ। विभागको एक अंश आवास तथा शहरी विकास विभाग बनेपछि आवास र शहरी विकास सो विभागले हेर्नुथाल्यो। एउटै क्षेत्रमा दुई विभाग प्रशासनिक रूपमा चलन नसकेपछि २०५८ सालमा त्यसलाई पुनः एउटै बनाई आजको अवस्थामा आएको छ।

समकालीन नेपाली वास्तुकला र शहरी विकास तथा भवन निर्माण विभाग

पुनर्गठित शहरी विकास तथा भवन निर्माण विभागले भवन निर्माण आवास र शहरी विकास लगायत धार्मिक सांस्कृतिक क्षेत्रको विकासको जिम्मेवारी लिएको छ। प्रस्तुत लेख समकालीन नेपाली वास्तुकलामा केन्द्रित भएकोले त्यस क्षेत्रमा विभागको भूमिकाको मात्र चर्चा गर्नु प्रासंगिक होला।

नेपाली वास्तुकला विगत तीन दशकको अन्यौलको स्थितिबाट गुज्रदै अहिले आएर एउटा दिशा समातेको अवस्थामा छ। बान्की नपरेका, कुरूप एवं नाप नक्सा नमिलेका भवनहरूले शहरी वातावरण बिग्रैको देखेपछि सचेत नागरिकहरू र केही वास्तुविदहरूको अथक प्रयास पछि मौलिक नेपाली शैलीको खोजी हुन थालेको हो। नेपाली शैलीका नाममा जथाभावी

प्यागोडा राख्ने चलनले नेपाली शैलीकै उपहास गरेको हामीले देखेकै हौं। जर्मन सहयोगमा सञ्चालित भक्तपुर विकास परियोजना अन्तर्गत धेरै मठ मन्दिरहरूको जिर्णोद्धार भएपछि नेपाली वास्तुविद् र कालीगढहरूले आफ्नो होश खुलेको अनुभव गरेका हुन्। भवन विभागद्वारा नै कार्यान्वयन गरिएको उक्त परियोजना पछिगएर संसारभर नै प्रख्यात बन्नपुग्यो र त्यसले काठमाण्डौ उपत्यका लगायत देशका अन्य भागमा पुराना भवनहरूलाई नयाँ रूप दिन प्रेरित गर्‍यो। अहिले जसरी समकालीन नेपाली वास्तुकला परिपक्वता तर्फ अघि बढ्दै छ, त्यसले हाम्रो उज्वल भविष्यतर्फ संकेत गरेको छ।

वर्तमान अवस्थामा शहरी विकास तथा भवन निर्माण विभागद्वारा देशभरी स्वास्थ्य कार्यालयहरू, अस्पताल, स्वास्थ्य तालीम केन्द्र र आवास गृह निर्माण गर्ने वृहत् भवन निर्माण आयोजना सञ्चालित छ। त्यसैगरी अदालत भवनहरू, क्षतिग्रस्त सरकारी भवनहरू तथा सिंहदरवार सचिवालय भित्र मन्त्रालय भवनहरू निर्माण गर्ने कार्य पनि भइरहेका छन्। यो विभाग भवन निर्माण क्षेत्रको अग्रणी निकाय र पथ प्रदर्शक भएको हुँदा राष्ट्रले उच्चस्तरका भवनहरूको अपेक्षा

गरेको हुन्छ। त्यसका साथै निजी परामर्शदाताहरू, निर्माण व्यवसायीहरू र वास्तुकलाका विद्यार्थीहरूले समेत यो विभागबाट केही नमूना भवनहरूको अपेक्षा गरेका हुन्छन्। परिमाणका दृष्टिले विभागले देशभरि धेरै भवनहरूको निर्माण गरिरहेको भए तापनि गुणात्मक दृष्टिले उत्कृष्ट भवनहरू राष्ट्रलाई सुम्पिन बाँकी नै छ।

निष्कर्ष

समकालीन नेपाली वास्तुकलाको विकासमा शहरी विकास तथा भवन निर्माण विभागको अग्रणी भूमिका भएको हुँदा यस विभागले निर्माण गर्ने ठूला साना सबै भवनहरूमा उत्कृष्ट वास्तुकला र निर्माण प्रविधि भल्किनु पर्दछ। त्यसैगरी ठाउँ सुहाउँदो डिजाइन र आधुनिक निर्माण सामग्री र निर्माण पद्धतिको प्रयोग पनि व्यावहारिक रूपले हुँदै जानु पर्दछ। विशेषगरी यो विभागका युवा वास्तुविद्हरूले एउटा निश्चित शैलीको अवलम्बन गर्दै भवन निर्माण गरेमा केही वर्षमा नै सो शैलीको अनुकरण गरी निजी क्षेत्र र सर्वसाधारण जनतालाई समेत मार्गदर्शन हुनेछ।



शुभ-विजया दशमी २०६३ को सुखद् अवसरमा
सुस्वास्थ्य, दीर्घायु एवं सुख-समृद्धिको
हार्दिक मङ्गलमलय शुभकामना व्यक्त गर्दछौं।

शहरी विकास तथा भवन निर्माण विभाग, परिवार

बबरमहल, काठमाडौं

जग्गा एकीकरण आयोजनामा पूर्वाधार विकासको लागि निजी क्षेत्रको सहभागिता

१. जग्गा एकीकरणको परिभाषा

जग्गा एकीकरण शहरी जग्गा विकास गर्ने एउटा प्रकृया हो। जस अन्तर्गत आवासयोग्य क्षेत्रमा रहेका आकार नमिलेका भौतिक पूर्वाधारको सुविधा नपुगेका विभिन्न जग्गाधनीहरूका जग्गालाई एकिकृत गरी सुविधायुक्त आवासयोग्य घडेरीको रूपमा विकसित गरिन्छ। नयाँ नक्सा तयार गरी प्रत्येक जग्गा धनी/मोहीका कित्ताहरूलाई व्यवस्थापन गरी बाटो, ढल निकास, खानेपानी, बिजुली आदिको सुविधाहरू पुऱ्याई विकसित घडेरीका रूपमा पुनः साविक कै जग्गाधनी/मोहीलाई फिर्ता दिइन्छ र सेवा सुविधा पुऱ्याइदिए वापत प्रत्येक कित्ताबाट केही योगदान कट्टा गरी योगदान वापतको जग्गाबाट पूर्वाधारको विकास गरिन्छ। यस प्रकार जग्गा धनीले पाउने विकसित घडेरी सुविधायुक्त आवास योग्य हुन्छन्। तर क्षेत्रफल साविकको भन्दा घट्छ र यो घट्ने प्रक्रिया जग्गाधनीहरू कै सहमतिमा योजना क्षेत्रमा पुऱ्याइने सेवा सुविधाको आधारमा तय गरिन्छ। यस प्रकार घट्ने जग्गाबाट योजना क्षेत्रमा बाटो, खुल्ला क्षेत्र र सार्वजनिक सेवा सुविधाहरूको लागि व्यवस्था गरिन्छ। साथै उक्त सेवा सुविधाको विकासको लागि लाग्ने खर्च समेत यसरी प्राप्त योगदानको जग्गा विक्री गरी लागत असुली गरिन्छ।

यसप्रकार जग्गा एकीकरणको प्रकृया आफैमा एउटा जटिल प्रकृया हो। किनभने जग्गा विकासको योजना बनाएर प्रत्येक जग्गाधनीबाट योगदान कट्टा गरेर विकसित घडेरी चित्त बुझ्दो ढंगबाट फिर्ता गर्नका लागि निकै प्रयास गर्नु पर्ने हुन्छ, प्राविधिक रूपले साथै व्यवस्थापकीय क्षमताको प्रयोगको रूपले। शहरी क्षेत्रका जग्गाहरू कृषियोग्यबाट आवासीय प्रयोजनका लागि परिवर्तन हुने प्रकृया निरन्तर चलिरहने प्रकृया हो। तर यो उपयोग परिवर्तन अव्यवस्थित ढङ्गले हुँदा बाटो, ढल, आदिको व्यवस्था पुऱ्याउन कठिनाई हुन्छ। बाटोसंग जोडिएका जग्गाले सजिलैसंग सेवा सुविधा पाएका हुन्छन् भने भित्री जग्गाहरूमा सेवा सुविधा पुऱ्याउन निकै कठिनाई हुन्छ। यस्तो प्रक्रियाले अव्यवस्थित बस्ती विस्तार हुन गई शहरीकरणलाई अनियन्त्रित र कुरूप बनाई दिन्छ। शहरी जनजीवन भन् भन् कष्टमय हुन जान्छ। सरकारको सीमित स्रोतले भौतिक पूर्वाधार पर्याप्त मात्रामा पुऱ्याउन कठिनाई

- सुरेशप्रकाश आचार्य
सुपरिन्टेन्डेन्ट इन्जिनियर
डिभिजन कार्यालय, काठमाडौं



भइरहेको अवस्थामा जग्गा एकीकरणको प्रक्रियाद्वारा सरल र सहज ढंगले भौतिक पूर्वाधारको विकास गर्न सकिन्छ।

२. पूर्वाधार विकासको प्रकृया :

जग्गा एकीकरण आयोजना पूर्वाधार विकासको योजना तयार गर्न सर्वप्रथम जग्गाधनीहरूको सहमति लिनु पर्ने हुन्छ। जग्गाधनीको सहमति लिने कार्य उपभोक्ता समिति/सहयोग समितिको माध्यमबाट आयोजना प्रमुखले छलफल गरेर मात्र निर्णयमा पुग्नु पर्छ। यसका लागि निम्न विधिहरू अपनाइन्छः

(क) योगदान गणना गर्ने : योगदान गणना गर्नका लागि सर्वप्रथम आयोजनाको कूल क्षेत्रफल योजनास्थलमा नापी गरेर निकालिन्छ। त्यसपछि योजनास्थल भित्र कति चौडाइको बाटो कहाँबाट निकाल्ने ? त्यसको बारेमा नक्सा तयार गरिन्छ। सम्पूर्ण योजनास्थलमा बाटोको प्रस्तावित संजाल को नक्शा तयार गरेपछि बाटोको लागि आवश्यक पर्ने क्षेत्रफल गणना गरिन्छ। आयोजना क्षेत्रमा खुल्ला क्षेत्र, सार्वजनिक पार्कको लागि कति क्षेत्रफल राख्ने ? कहाँ राख्ने ? त्यो तय गरिन्छ। आयोजना क्षेत्रमा निर्माण गरिने पूर्वाधार जस्तै बाटो, ढल निर्माण आदि र व्यवस्थापकीय खर्च जोडेर कूल लागतको गणना गरिन्छ। त्यसपछि आयोजनाको र वरिपरिको क्षेत्रमा बाटो, ढल आदिको सुविधा प्राप्त घडेरी के कति मूल्यमा विक्री भइरहेको छ ? त्यसको मूल्यको आधारमा आयोजनाको पूर्वाधार विकासको कूल लागत असुली गर्न कति क्षेत्रफल जग्गा विक्री गर्नुपर्ने हुन्छ ? त्यसको गणना गरिन्छ। यो लागत असुली गर्ने क्षेत्रफल (विक्री प्लट), बाटो र खुल्ला क्षेत्रको लागि आवश्यक क्षेत्रफल जोडेर जग्गाधनीले गर्नु पर्ने योगदान निकालिन्छ। आयोजना क्षेत्र भित्र सरकारी ऐलानी, पर्ति जग्गाहरू भएको ठाउँमा यो योगदान घट्नु पनि सक्छ। यसरी योगदानको क्षेत्रफललाई समानुपातिक ढङ्गले प्रत्येक कित्तामा बाँडेर प्रतिशतको आधारमा योगदान गणना गरिन्छ।

- (ख) विकसित घडेरीको नक्शा तयार गर्ने : उपभोक्ताहरूबाट योगदानको टुंगो लागेपछि प्रत्येक जग्गाधनीको कित्ताहरूलाई संभव भएसम्म एकीकृत गरी योगदान कट्टा गरी पुनः नयाँ नापी नक्सा तयार गरिन्छ। यसरी नयाँ क्षेत्रफल भएको लगत तयार गरिन्छ। यो नयाँ नक्सा तथा नयाँ जग्गाको अभिलेखलाई प्राविधिकद्वारा फिल्डमा चेक गरी नयाँ नापी नक्सा तयार गरी विकसित घडेरी सम्बन्धित जग्गा धनी/मोहीलाई फिर्ता दिइन्छ।
- (ग) पूर्वाधारको विकास गर्ने :- योगदानबाट प्राप्त क्षेत्रफलबाट बाटो, खुल्ला क्षेत्र तथा सार्वजनिक क्षेत्रहरू जग्गाधनीहरूसँग छलफल गरी नयाँ नक्सामा प्लट गरिन्छ। लागत असुलीको लागि छुट्याइएका प्लटहरू विक्रि गर्नु अघि पूर्वाधारको विकास गर्नुपर्ने हुन्छ। किनभने पूर्वाधार विकास नगरी प्लट विक्रि गर्दा मूल्य कम आउने भई लागत असुली मै प्रतिकूल असर पर्न जान्छ। त्यसकारण पूर्वाधारको विकास कार्य गर्नका लागि वित्तीय संस्थाहरूबाट ब्याज तिनै गरी ऋण लिएर कार्य गर्नु बाहेक अर्को विकल्प रहँदैन। पूर्वाधारको विकास कार्य शुरु भैसकेपछि मात्र लागत असुली गर्ने प्लट विक्रि गरी सोधभर्ना गर्न सकिन्छ। जग्गा एकीकरण आयोजना संचालन गर्न यो अवस्थामा निकै ठूलो वित्तीय संकट आउँछ। वित्तीयस्रोतको समय मै व्यवस्था गर्न नसक्दा योजनाको कार्य ढिलो हुन जान्छ र योजना संचालन भै प्रतिकूल असर पर्न जान्छ।

३. पूर्वाधार विकासमा निजी क्षेत्रको सहभागिता :

३.१ सामूहिक आवास/संयुक्त आवास निर्माण गर्ने कम्पनीलाई सहभागि गराएर:

हाल केही वर्षदेखि काठमाडौं उपत्यकामा सामूहिक/संयुक्त आवासको लहर नै चलेको छ। यस्तो आवासको व्यवस्था गरी विक्रि वितरण गर्ने कार्यले निकै लोकप्रियता पाउन थालेको छ। किनभने आवासीय भवन खरीदकर्ताले जग्गा खरीद गर्ने र भवन निर्माण गर्ने दुवै प्रकारका भ्रंङ्कटबाट मुक्ति पाएको हुन्छ। विदेशमा काम गर्ने व्यक्तिहरूका लागि काठमाडौंमा घर बनाउने चाहना यस्ता कम्पनीहरूले पूरा गरिदिएका छन्। तर यस्ता सामूहिक/संयुक्त आवास निर्माण गर्ने कम्पनीहरूका लागि एकिकृत रूपमा ठूलो क्षेत्रफल जग्गा खाली पाउन निकै कठिन हुँदै गैरहेको छ। सेवा सुविधा पुगेको स्थानमा त ठूलो क्षेत्रफलको खाली जग्गा पाउन आफैमा निकै नै गाह्रो कार्य हो। तर जग्गा एकीकरण आयोजनाले लागत असुलीको लागि छुट्याइएका जग्गाहरू एकीकृत गरी ठूलो प्लट बनाई यस्ता आवास कम्पनीहरूलाई विक्री वितरण गर्न

सकेमा आयोजनालाई पनि एकमुष्ट ठूलो रकम प्राप्त हुने र आवास कम्पनीलाई पनि जग्गा प्राप्त गर्नु सरल र सुगम हुने देखिन्छ। यस्ता विक्रि प्लटहरू साना साना क्षेत्रफलको भएपनि लगानीकर्ताले पूर्वाधार विकास नभएर लगानी गर्न अप्ठ्यारो मान्न सक्छ। तर आवास कम्पनीले यस्तो जग्गा एकै ठाउँमा पाउने सम्भावना भएमा तुरुन्तै लगानी गर्न सक्छ। यस प्रकार आयोजनाले शुरुमै रकम प्राप्त गर्न सक्छ र पूर्वाधारको विकास गर्न आर्थिक समस्या पर्दैन। यस प्रकार आयोजना पूर्वाधार विकासको कार्यक्रम लागतमा नै सम्पन्न गर्न सक्ने सम्भावना हुन्छ।

तर यसरी विक्रि योग्य प्लटहरू एक ठाउँमा राखी ठूलो प्लट बनाउँदा अधिकांश कित्ताहरू आफ्नो साविकको स्थानबाट सर्नुपर्ने हुन्छ। यसको लागि जग्गाधनीहरूको सहमति आवश्यक पर्दछ। तर आयोजनाको हितको दृष्टिकोणले अत्यन्त उपयोगी हुन्छ।

यस प्रकार लागत असुलीको लागि छुट्याइएका क्षेत्रफललाई एकीकृत गरी एकै ठाउँमा सामूहिक आवासको लागि पर्याप्त हुने किसिमले राख्नको लागि जग्गा धनीहरूको सहमतिको आवश्यकता हुन्छ। यस प्रकारको प्रक्रियाको लागि जग्गा एकिकरणको संचालन प्रक्रियामा पनि केही संशोधन हुनु पर्ने देखिन्छ।

३.२ स्थानीय निकायले सुरुमा लगानी गरी पछि लागत असुली गर्ने :-

यस प्रकृत्यामा स्थानीय निकाय (नगरपालिका/गा.वि.स.) ले आफ्नो क्षेत्रमा भएका आयोजनामा पूर्वाधारको विकासमा सुरुमै केही लगानी गर्ने र त्यो लगानी उक्त आयोजना क्षेत्रमा भवन निर्माण हुँदा नक्शा पासमा थप दस्तुर राखी असुलउपर गर्ने। यो प्रकृत्यामा आयोजनाको केही पूर्वाधारको लागि लगानी गरी असुलउपर गर्न सकिन्छ। यो प्रकृत्याले जग्गाधनीहरूको सुरुमै योगदान कम हुन जान्छ र योजना सफल हुने सम्भावना बढ्छ। उदाहरणको लागि कुनै १००० वटा घडेरी भएको योजना स्थलमा स्थानीय निकायले २०,००,०००/- लगानी गरेर सडक निर्माण गरेछ। योजना सम्पन्न भएको २ वर्षभित्र ५० प्रतिशत घडेरीमा भवन निर्माण भएछ भने प्रत्येक भवनबाट ४,०००/- का दरले नक्शा पास गर्दा थप दस्तुर लिई २०,००,०००/- असुल गर्न सकिन्छ। बाँकी ५० प्रतिशतबाट प्राप्त हुने रकमले सो क्षेत्रमा अन्य पूर्वाधारको विकास गर्नका लागि आवश्यक वित्तीय स्रोत तयार गर्न सकिन्छ। यो प्रक्रियाको लागि शुरुमै एकमुष्ट ठूलो लगानी गर्न पर्याप्त बजेट हुनु पर्छ। त्यो बजेट खर्च गर्न उपयुक्त कानूनी आधार भएमा मात्र सजिलो गरी लगानी गर्न सकिन्छ, अन्यथा व्यावहारिक जटिलता

उत्पन्न हुन सक्छ। तर यसरी शुरुमा लगानी गर्ने हो भने सम्बन्धित स्थानीय निकायसंग आयोजना क्षेत्रमा धेरै भवनहरूको निर्माण कार्य शुरु भएपछि ठूलो वित्तीय स्रोतको सिर्जना हुन सक्ने प्रशस्त सम्भावना हुन्छ। यस प्रकारको व्यवस्थाले आयोजना सम्पन्न भई सकेपछि मर्मत सम्भारको लागि समेत आवश्यक स्रोत परिचालन गर्न सकिन्छ।

३.३ खुल्ला क्षेत्रको व्यवस्थापन :-

जग्गा एकीकरण आयोजनाहरूमा खुल्ला क्षेत्रको उचित संरक्षण नहुँदा कतिपय आयोजनाहरू त्यत्तिकै अस्तव्यस्त रहेको पाइन्छ। यस्ता खुल्ला क्षेत्रलाई नर्सरी विकास गर्न लिजमा दिएर अन्य पूर्वाधारको विकासमा योगदान पुऱ्याउन सकिन्छ। त्यस्तै खुला क्षेत्रलाई तरकारी बजार, स्वीमिङ पुल/खुल्ला मञ्चको रूपमा विकसित गरेर राम्रो आय आर्जन गर्न सकिन्छ। यस्तो आयलाई आयोजनाको पूर्वाधार विकासमा लगानी गर्न सकिन्छ। गोगबु जग्गा एकीकरण आयोजनामा यो प्रयोग भएको छ। खुल्ला क्षेत्रको वैकल्पिक प्रयोगका लागि जग्गा धनीहरूको सहमति आवश्यक हुन्छ। साथै कानूनी मान्यता समेत पाउनु जरुरी हुन्छ।

३.४ पूर्वाधार विकास गर्नलाई विकसित घडेरी भुक्तानी गर्ने

जग्गा एकीकरण आयोजनाको आयस्रोत भनेको नै विकसित घडेरी हो। यस्ता आयोजनाको भौतिक पूर्वाधार विकास गर्दा लाग्ने खर्च वापत विकसित घडेरी पाउने गरी निर्माण कार्यको व्यवस्थापन गर्न सकिन्छ। यसरी भुक्तानी गर्ने विकसित घडेरीको मूल्य अलिकति सहूलियत दर हुनासाथ

काम गर्ने निर्माण व्यवसायीलाई आकर्षित गर्न सकिन्छ। यस आयोजनालाई सुरुमै ठूलो धनराशि ब्याज तिर्ने गरी ऋण लिनु पर्ने हुँदैन। जसले गर्दा लागत घट्न जान्छ, र जग्गाधनीहरूको सहमति जुटाउन सजिलो हुन्छ। गोपिकृष्ण जग्गा एकीकरण आयोजनामा यस प्रकारको प्रयोग गरिएको छ।

४. उपसंहार :-

जग्गा एकीकरण आयोजनाहरू संचालन गर्दा उत्पन्न समस्याहरू मध्ये वित्तीय स्रोतको उपलब्धि पनि प्रमुख हो। जग्गाधनीहरूसंग सहमति पश्चात् जती छिटो आयोजनाको पूर्वाधार विकास गर्न सकिन्छ त्यति नै आयोजनाको लागत पनि कम हुन्छ र जग्गाधनीसंग सहमति जुटाउन त्यति नै सजिलो हुन्छ। पूर्वाधारको निर्माण काममा ढिलाइ हुँदा शुरुमा सहमति दिएका जग्गाधनीहरूले समेत विरोधको स्थिति सिर्जना गर्दछन्। माथि उल्लिखित विभिन्न तरिकाहरू अपनाई निजी क्षेत्रको सहभागिताद्वारा पूर्वाधार विकासको लागि आवश्यक स्रोत जुटाउन सकिने प्रशस्त सम्भावनाहरू छन्। आयोजना प्रकृति अनुसार कुनै एक वा दुई वा सो भन्दा बढी तरिकाहरू पानी एउटै आयोजनामा लागु गरी विकास निर्माणको काम गराउन सकिन्छ। यस्ता कार्यहरू गर्नका लागि व्यवस्थापन उपसमिति तथा आयोजना प्रमुखलाई कानूनी अधिकारहरू दिइनु जरुरी देखिन्छ। शहरी जग्गा भनेको आफै एउटा ठूलो स्रोत हो। यसको उचित व्यवस्थापन गरेमा भौतिक पूर्वाधार विकास गर्न सघाउ पुग्न गई शहरी विकासमै महत्वपूर्ण भूमिका खेल्न सकिन्छ।

काठमाडौं उपत्यका भित्र रहेका जग्गा एकीकरण आयोजनामा भौतिक पूर्वाधारको स्थिति (सम्पन्न आयोजनाहरू)

क्र.सं.	नाम	क्षेत्रफल (वर्ग मी.)	संख्या	मूल्य (रु.)	वित्तिय स्रोत	संस्था	संस्था	संस्था
१.	गंगबु	१४.३३	५.९४१	१०.३	०.७९६	४०६	६,९८,२९,५९९	का.जि.
२.	लुभु	१३.५०	३.७०५	६.०	०.५८०	२४३	१,८१,६१,३४५	ल.पु.जि.
३.	कमल विनायक	७.३२	३.२००	४.९०	०.३०४	२०५	८६,४०,०००	भ.जि.
४.	बाग्मती फाँट	९.८०	९.४१०	२.५०	-	५६०	९५,८९,७७२	ल.पु.जि.
५.	लिवाली	३३.४५	८.८५०	९.४१	१.१७	७७०	६,२३,२९,७५६	भ.जि.
६.	सिन्टीटार	२७.५०	८.७३२	८.८५	०.९३५	९२०	८,७४,९२,३२५	भ.जि.
७.	सैबु	२४.५८	१०.२५०	१७.४	३.१७८	८००	२९,६२,५६,७७६	ल.पु.जि.
८.	डल्लु	२०.००	७.००	६.९५	१.४०	७५०	१०,७४,८९,४७३	का.जि.
९.	नयाँ बजार	४४.२५	१७.२०	२३.००	१.६०	१३१२	२७,७७,७८,८३५	का.जि.
१०.	चावहिल गोपीकृष्ण	१०.८८	४.१३७	४.१३७	०.४१७	२९२	७,२४,५६,९८९	का.जि.
११.	सिनामंगल(प्रथम)	३५.९७	११.७२४	११.७२४	१.९७८	१०७४	१०,९१,२९,८१८	का.जि.
१२.	कीर्तिपुर(प्रथम)	५.१८१	२.२००	२.२००	०.२५	३००	३,३५,१९,२३८	का.जि.
हल्लु		२४६.७६१	९२.३४	१०७.३७	१२.३१८	७३२०	१,१५,२६,७३,९२६	

काठमाडौं उपत्यका भित्र रहेका जग्गा एकीकरण आयोजनाहरू :

क्र.सं.	जग्गाको स्थिति	जग्गाको विवरण	
		जग्गाको क्षेत्रफल (वर्ग मीटर)	जग्गाको मूल्य (रु.)
१.	बागमतीनगर	६३.२६९	२८००
२.	कमेरोटार	४५.७२०	२५२०
३.	च:मती	७३.१५२	३१७०
४.	मनोहरा फाँट	९०.११९	-
५.	धोवीखोला करीडर	-	-
६.	तुमुचो दुगुरे चोखा	३०.४८	१५००
७.	बागमती फाँट (दोस्रो)	७.११२	-
८.	सिनामंगल (दोस्रो)	११.४३	-
९.	इचंगुनारायण	३०.८३५	-
१०.	कीर्तिपुर (दास्रो)	४६.३८०	-

Source : Land Pooling Projects as a tool for financing Urban Infrastructure in Kath Valley : By Dr. Jibgar Joshi, Mr. S.B. Sangachhe

जानकारी

काठमाडौं उपत्यकाको आधार नक्साहरूको प्रतिलिपि एवं डिजिटल फायलहरू शहरी विकास तथा भवन निर्माण विभाग, डिभिजन कार्यालय काठमाडौं (फोन नं.: ४२६२४०८, ४२६२८३५) ले, निम्न दर-रेटमा विक्री वितरण गर्दै आएको जानकारी गराइन्छ:

- १) **A-1** आकारको नक्साको प्रतिलिपि - रु. १००१- प्रति सेट
- २) डिजिटल फायल:
 - रु. ७००१- प्रति सिट
 - रु. ५००१- प्रति सिट (विद्यार्थीलाई)
 - अमेरिकी डलर १५१- प्रति सिट (विदेशीलाई)

(आवश्यक सि.डि. डिस्क भने खरिदकर्ताले नै ल्याउनु पर्नेछ)

शहर : आशाको केन्द्र

- दिव्येश्वर प्रसाद श्रेष्ठ
वरिष्ठ अर्थशास्त्री



सन् २००१ को राष्ट्रिय जनगणना अनुसार नेपालको कुल जनसंख्याको १४ प्रतिशत जनसंख्या शहरी क्षेत्रमा र बाँकी ८६ प्रतिशत जनसंख्या ग्रामीण क्षेत्रमा बसोबास गरेको देखिन्छ। नेपालमा ५८ वटा नगरपालिकाको अतिरिक्त निकट भाविष्यमा नै नगरपालिकाको स्वरूप लिने सय भन्दा बढी शहरोन्मुख गाविस अर्थात् साना शहरहरू पनि रहेका छन्। यी साना शहरहरूमा बस्ने जनसंख्यालाई समेत गणना गर्दा पनि शहरी क्षेत्रमा बसोबास गर्ने जनसंख्या २० प्रतिशत भन्दा बढी हुने देखिँदैन। यसबाट नेपाल शहरीकरणको दिशामा अन्य दक्षिण एशियाली मुलुकहरूको तुलनामा पछाडि नै परेको तथ्य स्पष्ट हुन्छ। यस अतिरिक्त नेपालका अधिकांश शहरहरू (काठमाडौं, विराटनगर, वीरगञ्ज, पोखरा आदिलाई छोडेर) अझै पनि ग्रामीण प्रकृतिका नै रहेका छन्। यसो हुनाको प्रमुख कारणमा नेपालमा नगरपालिका घोषणा गर्ने आधार नै हो। नगरपालिका घोषणा गर्न न्यूनतम जनसंख्या पुऱ्याउने हेतुले पूर्वाधार एवं बस्तीको विकासलाई वास्ता नगरी प्रायः पूर्वाधारविहीन एवं छरिएर रहेका बस्तीहरू भएका छिमेकी गाविसहरूलाई नगरपालिका क्षेत्र भित्र गाभ्दा यस्तो स्थितिको सिर्जना हुन गएको हो। तसर्थ, यस्ता प्रकृतिका बस्तीहरू भएका नगरोन्मुख गाविस एवम् साना शहरहरूमा शुरुदेखि नै पूर्वाधारका सेवा सुविधाहरू सीमित हुने र पछि नगरपालिका घोषणा भएपछि पूर्वाधारको समस्या अझ जटिल हुँदै जानु स्वाभाविक नै छ। धेरै नगरपालिकाहरूमा स्रोत र साधनको अभावको कारणले गर्दा पूर्वाधार सेवा सुविधामा विस्तार गरी शहरको व्यवस्थापन गर्ने कार्य क्षमताभन्दा बाहिर रहेको अनुभव यत्रतत्र गर्न सकिन्छ।

भौगोलिक हिसाबले सीमित क्षेत्रफल र जनसंख्याको हिसाबले कमै जनसंख्या मात्र शहरी क्षेत्रमा बसोबास गर्ने भएतापनि आर्थिक, सामाजिक, प्रशासनिक, राजनीतिक आदि दृष्टिकोणले शहरी क्षेत्रको महत्व नेपालमा ज्यादै ठूलो रहेको छ। वास्तवमा नेपालका प्रमुख शहरहरू अवश्य पनि आशाका केन्द्रकै रूपमा र धेरैको सपनाको शहरको रूपमा नै रहेको छ भन्दा अत्युक्ति हुनेछैन। अझ नेपालका अन्य ठूला शहरहरूको तुलनामा काठमाडौं उपत्यका भित्रका, त्यसमा पनि विशेष

गरी काठमाडौं महानगरपालिका र ललितपुर उपमहानगरपालिका त अधिराज्यभरिका मानिसहरूको सपनाको शहर तथा आशाको केन्द्रको रूपमा रहँदै आएको छ। यदि यस्तो नहुँदो हो त, न त यहाँ प्रत्येक वर्ष करिब १० हजारको हाराहारीमा नयाँ घर निर्माण हुने थिए न त घडेरीको मूल्य यसरी आकासिन्थ्यो। त्यसकारण काठमाडौं उपत्यकाको आफ्नै समस्याहरू जस्तो खानेपानी, फोहोरमैला व्यवस्थापन, विजुली, प्रदूषण, सवारीको चाप आदि भएता पनि काठमाडौं शहर अझै धेरैको लागि प्रमुख आकर्षण केन्द्रकै रूपमा रहन सक्षम रहेको छ। ठूला शहरहरूमा यस्तो स्थिति रहनुको पछाडि केवल एउटै मात्रै कारण नभइ थुप्रै महत्वपूर्ण कारक तत्वहरू रहेका हुन्छन्। काठमाडौं उपत्यका लगायत नेपालका अन्य ठूला शहरहरू किन आशाका केन्द्र रहेका छन् भन्ने सन्दर्भमा केही विश्लेषण गर्ने प्रयास तल गरिएको छ।

आर्थिक

कुनै पनि शहर स्वतः निर्माण हुने नभइ मानिसहरूको बसोबास र आर्थिक क्रियाकलापले सिर्जना हुने गर्दछ। तसर्थ शहरहरू प्रायः देशका यस्ता स्थान वा क्षेत्रहरूमा विकसित हुने गर्दछ जहाँ आर्थिक उन्नति अर्थात् उद्योग, व्यापार व्यवसाय आदि जस्ता आर्थिक गतिविधिको लागि उपयुक्त थलो हुन्छ। नेपालका प्रायः सम्पूर्ण शहरहरू व्यापारिक वा औद्योगिकीकरणका कारण विकसित हुन पुगेको देखिन्छ। तराईका सम्पूर्ण शहरी क्षेत्रहरू जस्तै विराटनगर, वीरगञ्ज, भैरहवा आदि औद्योगिक गतिविधिका कारणले अगाडि पुगेको देखिन्छ भने काठमाडौं उपत्यका, पोखरा उपत्यका लगायत अन्य ठूला शहरहरूको विकास उद्योगभन्दा पनि बन्द-व्यापारको कारणले विकास भएको देखिन्छ। कच्चा पदार्थको उपलब्धता, भारतीय बजारसंगको निकतता, समतल भू-भाग, यातायातको सुविधा, आवश्यक संख्यामा मजदुरको उपलब्धता आदि विविध कारणहरूले तराई क्षेत्र उद्योग स्थापनाको लागि उपयुक्त थलोको रूपमा विकास हुन पुग्यो। यसरी नै काठमाडौं उपत्यका लगायत पोखरा, धनकुटा आदि पहाडी क्षेत्रमा अवस्थित शहरहरू

तराई र हिमाली क्षेत्र बीच अवस्थित रहेका कारणले हिमाली र तराई क्षेत्र बीचको व्यापार वृद्धि गर्न उपयुक्त थलोको रूपमा विकास हुन पुग्यो । यसको अर्थ यो होइन कि विराटनगर, वीरगञ्ज, भैरहवा आदि तराईका शहरहरूमा व्यापार व्यवसायको विकास भएको छैन अथवा काठमाडौं, पोखरा आदि शहरहरूमा केही उद्योग नै छैनन् ।

उद्योग एवम् व्यापारको विकासको कारणले गर्दा यस्ता ठूला शहरहरूमा रोजगारीका थुप्रै अवसरहरू सिर्जना हुन गए । जसका कारण नेपालका ग्रामीण इलाकाबाट वर्षेनी थुप्रै संख्यामा मानिसहरू त्यसतर्फ ओइरिन थाले र यस्ता शहरहरूको जनसंख्या वर्षेनी बढ्न थाल्यो । नेपालका ग्रामीण क्षेत्रमा एकातिर गरिबीको संख्या धेरै हुनु र अर्कोतिर जीवनयापनको लागि न्यूनतम आधार पनि उपलब्ध नहुनाको कारणले गर्दा यस्ता वर्गको लागि नेपालका ठूला शहरहरू जीवनयापनको लागि प्रमुख आकर्षण केन्द्रको रूपमा रही आएको छ । यसको साथै ग्रामीण क्षेत्रकै वा साना शहरका पूँजिपति वर्गको लागि पनि आ-आफ्नो व्यापार वा उद्योगलाई वृहत्स्तरमा लैजाने अवसर यस्ता ठूला शहरमा मात्र सम्भव हुने हुनाले यस्ता व्यापारी एवं उद्योगपति पनि ठूला शहर प्रति आकृष्ट भएका छन् । एक अध्ययनअनुसार समग्रमा नगरपालिकाको कुल जनसंख्यामा बसाइँ-सराइँ गरी आउने जनसंख्याको अंश २६ प्रतिशत रहेको छ जसमध्ये ग्रामीण क्षेत्रबाट नगर क्षेत्रमा बसाइँ-सराइँ गर्ने २३ प्रतिशत रहेको छ भने शहरी क्षेत्रबाट नगरपालिका आउने जनसंख्या ३ प्रतिशत रहेको देखिन्छ । एउटा घतलागदो पक्ष अध्ययनले के देखाएको छ भने ठूला शहरहरूमा जहाँ रोजगारी तथा अन्य आर्थिक अवसरहरू बढी हुन्छन् स्वभावतः त्यस्ता शहरहरूमा ग्रामीण एवं शहरी क्षेत्रबाट बसाइँ-सराइँ गर्नेको संख्या पनि बढी रहेको छ । उदाहरणको लागि काठमाडौं भरतपुर, बुटवल नगरपालिकाहरूमा कुल जनसंख्याको ४० प्रतिशत, ४१ प्रतिशत र ४५ प्रतिशत जनसंख्या बाहिरबाट बसाइँ-सराइँ गरी आएको देखिन्छ भने दशरथचन्द्र, गौर, भीमेश्वर नगरपालिकाका कुल जनसंख्यामा बसाइँ सराईँको अंश क्रमशः २, ३/३ प्रतिशत मात्र रहेको छ । यसबाट स्पष्ट रूपमा के दर्शाउँछ भने साना शहरभन्दा ठूला शहरहरू नै, जहाँ विभिन्न अवसरहरू बढी विद्यमान छन्, त्यहाँ नै बढी मानिसहरू आकृष्ट भएका छन् ।

सामाजिक

शहरहरूमा मानिसहरू आकृष्ट हुनाको अर्को कारण हो गुणस्तरीय शैक्षिक तथा स्वास्थ्य उपचारको सेवा सुविधा

उपलब्ध हुनु । ग्रामीण क्षेत्रको तुलनामा गुणस्तरीय शिक्षा एवम् स्वास्थ्य उपचारको सेवा शहरी क्षेत्रमा मात्र हाल उपलब्ध रहेको कारणले गर्दा विशेष गरी आर्थिक हैसियत भएका वर्गहरू गुणस्तरीय शिक्षा हासिल गर्न वा भरपर्दो उच्चस्तरीय स्वास्थ्य उपचारको लागि प्रायः ठूला शहरहरू तर्फ नै जाने गरेको देखिन्छ । अधिराज्यका अन्य ठूला शहरहरूको तुलनामा अझै पनि काठमाडौं उपत्यकाले यी दुवै सेवा सुविधाको क्षेत्रमा अग्रणी भूमिका निर्वाह गर्दै आएको देखिन्छ । स्वास्थ्य उपचारको सेवा प्राप्त गर्न आउने विरामीहरू केही निश्चित समयपछि फर्कने हुनाले यिनीहरूलाई ठूला शहरले आकृष्ट गरेता पनि यिनीहरू अस्थायी प्रकृतिका छन् । तर उच्चशिक्षाको लागि आउने विद्यार्थीहरू भने पढाइ सम्पन्न गरिसकेपछि पनि रोजगारीका अवसर बढी शहरहरूमा केन्द्रित हुने कारणले गर्दा शहरमै स्थायी रूपले बसोबास गर्ने गरेको देखिन्छ । यसमा पनि जति जति उच्च शिक्षाको स्तर माथि जान्छ, सोही अनुरूप शहरमा स्थायी रूपमा बस्ने सम्भावना एवम् आवश्यकता बढी हुन थाल्छ । यी कारणहरूले गर्दा शहर अर्थात् नगरपालिकाहरूमा बहालमा बस्ने जनसंख्या समग्रमा झण्डै ३५ प्रतिशत रहेको देखिन्छ । त्यसमा पनि काठमाडौं महानगरपालिका, ललितपुर र पोखरा उप-महानगरपालिकामा बहालमा बस्ने क्रमशः ५९, ४७ र ४९ प्रतिशत रहेको छ । यस अतिरिक्त शहरको आकर्षणले गर्दा १५ वर्ष मुनिका बालबालिकाहरू मध्ये ५ प्रतिशत बालबालिकाले आफ्नो घर छोड्ने गरेको उक्त सर्भेक्षणले देखाएको छ । साथै ५० प्रतिशत महिलाहरू पारिवारिक र सामाजिक कारणले गर्दा बसाइँ सराईँ गर्ने गरेको पनि देखाएको छ ।

भौतिक

भौतिक सेवा सुविधा जस्तो सडक, ढल, खानेपानी, बिजुली, सञ्चार आदिको दृष्टिकोणले नेपालका शहरी क्षेत्र ग्रामीण क्षेत्रको तुलनामा अगाडि नै रहेको छ । नेपाल जीवनस्तर सर्भेक्षण-प्रथम २०५२/५३ र दोस्रो २०६०/६१ अनुसार राष्ट्रियस्तरमा बिजुलीको सुविधा पुगेका परिवार यस अवधिमा १४ बाट बढेर ३७ पुगेको छ भने पाइपको खानेपानी उपभोग गर्ने परिवारको प्रतिशत ३३ बाट ४४ पुगेको छ । यसैगरी चर्पीको सुविधा भएका परिवारको प्रतिशत आठ वर्ष पछि २२ बाट बढेर ३९ पुगेको छ । यसबाट स्पष्ट रूपमा के देखिन्छ भने अधिराज्यका आधा भन्दा बढी जनसंख्या बिजुली, खानेपानी र चर्पीको सुविधाबाट बञ्चित रहेको देखिन्छ । ग्रामीण र शहरी क्षेत्र बीच यी सेवा सुविधाहरूको स्थितिमा अझै निकै

असमानता रहेको सोही सर्भेक्षणको आँकडाले प्रष्ट्याउँछ। उदाहरणको लागि नेपाल जीवनस्तर सर्भेक्षण-प्रथम १९९५/९६ अनुसार शहरी क्षेत्रमा पाइपबाट वितरित खानेपानी, बिजुली, चर्पी र टेलिफोनको सुविधा पुग्ने घरपरिवार क्रमशः ४३.१, ७८.४, ६१.० र ११.४ प्रतिशत रहेको छ। यी सुविधाहरू ग्रामीण क्षेत्रका ४.७, ८.६, १७.७ र ०.२ प्रतिशतको परिवारमा मात्र उपलब्ध भएको उक्त अध्ययनले देखाउँछ। यी आँकडाले शहरी र ग्रामीण क्षेत्र बीच विद्यमान असमानतालाई स्पष्ट रूपमा दर्शाउँछ।

मानिसहरूको जीवन सहज एवम् सुविधामय बनाउनमा यस्ता पूर्वाधार सेवा सुविधाले महत्वपूर्ण भूमिका खेलेको हुन्छ। अर्थात् यी सेवा सुविधाको अभावमा जीवन सुखमय, सुविधायुक्त बनाउने कुरा भौतिक हिसाबले काल्पनिक मात्र हुन जान्छ। तसर्थ सुख सयल जीवन खोज्ने मानिस वा परिवारको लागि शहरले सहजै रूपमा चुम्बकले आकर्षण गरे जस्तै आकर्षण गर्ने गर्दछ। भौतिक हिसाबले जति जति प्रगति हुँदै जान्छ, सोही अनुसार शहरहरूमा यस्ता सुविधाहरूको विस्तार एवं स्तर उन्नति हुँदै जान्छ। काठमाडौं उपत्यकामा जति भौतिक सेवा सुविधा अधिराज्यका अन्य शहरहरूमा प्रायः उपलब्ध छैन होला। त्यसकारण अधिराज्यका विभिन्न क्षेत्रबाट मानिसहरू उपत्यकामा आकृष्ट हुनु स्वभाविक नै छ। नेपाल जीवनस्तर सर्भेक्षण-दोस्रो २०६०/६१ ले पनि शहरी क्षेत्रतर्फ बसाइँ सराई गर्ने परिवारहरू मध्ये १२ प्रतिशत सहज जीवनयापनको लागि आउने गरेको देखिन्छ। यसबाट स्पष्ट रूपमा के देखाउँछ भने शहरले सहज जीवनयापन गर्नको लागि पनि आकृष्ट गर्दै आएको रहेछ।

राजनीतिक एवं प्रशासनिक

राजनीतिमा उच्च महत्वकांक्षा राख्ने व्यक्तिहरूको लागि ग्रामीण क्षेत्रभन्दा ठूला शहरी क्षेत्र, अझ त्यसमा पनि काठमाडौं उपत्यका बढी उपयोगी थलो हुने भएको कारणले गर्दा काठमाडौं उपत्यका लगायत अन्य ठूला शहरहरूले यस्ता व्यक्तिहरूलाई सदैव शहरतर्फ तानि राखेकै हुन्छन्। ठूला शहरी क्षेत्रमा जति अन्तरराष्ट्रिय जगतबारे सूचनाको प्रवाह, अनुभवको आदान प्रदान गर्ने अवसर प्राप्त हुन्छ, त्यो ग्रामीण क्षेत्रमा सम्भव नहुन सक्छ। हुन त टेलिभिजन र इण्टरनेटको विस्तारले यी कुराहरू ग्रामीण क्षेत्रमा पनि सम्भव बनाएको भएता पनि व्यक्तिगत तवरले सम्पर्क गर्ने अवसर केवल शहरले मात्र सम्भव गराउँदछ। यसरी कतिपय प्रशासनिक काम

कारवाहीको लागि पनि मानिसहरू ठूला शहरतर्फ आउनु पर्ने हुन्छ। तसर्थ, बाध्यतावश होस् अथवा अवसरको आकर्षणको कारणले धेरै मानिसहरू अझसम्म पनि ठूला शहरतर्फ आकृष्ट हुनु पर्ने स्थिति यथावत नै रहेको छ।

विविध

आर्थिक अवसरको खोजिमा, सामाजिक सेवा सुविधाको कारण, सुखमय जीवनयापन, राजनीति गर्न वा प्रशासनिक कार्य सम्पन्न गर्न मानिसहरूलाई शहरले सदैव आकर्षण गर्दै आएको छ। यसरी आउने मानिसहरूमा कोही स्थायी बसोबासको लागि नै शहरमा आउने गर्दछन् भने कोही सीमित अवधिसम्म बसी त्यसपछि आ-आफ्नो जन्मथलो लाग्नेहरू पनि नभएका होइनन्। यी प्रमुख कारणहरूको अतिरिक्त शहरहरू घुमफिर गर्न अर्थात् शहरी फिलीमिली हेर्न, विहावारी गर्न, शहरमा बस्ने नातागोता, इष्टमित्रसँग भेटघाट गर्न, केही विशेष स्थिति वा परिस्थिति जस्तो विवाह, ब्रतबन्ध वा यस्तै ठूलो अवसरको बेला विशेष सामग्री किन्न पनि मानिसहरूलाई शहरले आकर्षण गर्ने गरेको देखिन्छ। शहरमा आउँदा 'एक पन्थ दो काज' अथवा 'पशुपतिको जात्रा सिद्राको व्यापार' भने भैं कार्य गर्न पनि शहरले अवसर प्रदान गरेको हुन्छ। यसको अलावा ग्रामीण क्षेत्रमा मर्मतको सेवा, कृषि सामग्री आदि उपलब्ध भएपनि स्तरीय नहुनु र महंगो हुनाको कारण मर्मतका सेवा सुविधा लगायत खेतीपातीको लागि आवश्यक सामग्रीको लागि पनि मानिसहरू शहरतर्फ नै आकृष्ट हुने गर्दछन्।

उपसंहार

शहर विभिन्न कारणहरूले गर्दा आशाको केन्द्र रहेता पनि असंख्य मानिसहरूको सपना एवम् आशालाई मूर्त रूपमा परिणत वा रूपान्तरण गर्न सक्ने क्षमता शहरको पनि सीमित रहेको कारणले गर्दा शहरलाई सदैव आशाको केन्द्रको रूपमा जीवन्त र वास्तविक बनाई राख्न नेपालका असंख्य ग्रामीण वस्तीहरूमा पनि सेवा सुविधा उपलब्ध गराएर रोजगारीका अवसर एवम् आर्थिक उन्नतिका अवसरहरू सिर्जना गरेर हाल ग्रामीण इलाकाबाट शहरी क्षेत्र तर्फ भइरहेको एकोहोरो बसाइँ सराईको प्रकृति एवं प्रवृत्तिलाई घटाउँदै लैजानु नितान्त आवश्यक छ। नत्र कुनै दिन यस्तो पनि आउने छ जुनबेला शहरहरू आशाको केन्द्र भन्दा निराशाको केन्द्र नबन्लान् भन्न सकिन्न।

नेपालको “राष्ट्रिय भवन संहिता” एक चिनारी

- अमृतमान तुलाधर
सिभिल इन्जिनियर

शहरी विकास तथा भवन निर्माण विभाग



भूमिका:

भौगोलिक बनावट र भारतीय उप-महाद्वीप र यूरोशियन महाद्वीपको सन्धिस्थलमा (Subduction Zone) परेको कारणले गर्दा नेपाल भूकम्पीय दृष्टिले जोखिम क्षेत्रभित्र पर्दछ। यहाँ मभौला खालका भूकम्पले पनि ठूलो क्षति हुनसक्ने बारे सम्बन्धित विशेषज्ञ र भूगर्भ विद्हरूले औल्याएका छन्। नेपालको भूकम्प सम्बन्धी इतिहासलाई पल्टाउँदा वि.सं. १२५५, १४०८, १६८१, १८१०, १८३३ र १८६६ मा ठूला-ठूला भूकम्पहरू गएको पाईन्छ। यससम्बन्धी क्षतिको वास्तविक तथ्याङ्क आकलन तथा लेखाजोखा भएको पाईदैन। वि.सं. १८९० भदौ १२ गते साँझ ६ बजे र राति ११ बजे ठूला-ठूला धक्काका साथ गएको भूकम्पले नेपालका धेरै भागहरूलाई प्रभावित पारी निकै धनजनको क्षति पुऱ्याएको थियो। यस भूकम्पले १८ हजार घरहरू क्षतिग्रस्त हुनुका साथै १२० जनाले ज्यान गुमाउनु परेको थियो। यस पछिको वि.सं.१९९० साल माघ २ गतेको ८.४ रेक्टर स्केलको महाभूकम्पले नेपाल र भारतको विहार क्षेत्रमा अत्याधिक प्रभाव पाऱ्यो। यस भूकम्पले नेपालमा मात्र ८०,००० घरहरू नष्ट भएका थिए। समष्टिगत रूपमा १,०४,००० घरहरूलाई हानी नोक्सानी पुऱ्यायो भने ४ हजार ५ सय जनाले ज्यान गुमाउनु परेको थियो।

यसैगरी नेपालको उदयपुर जिल्लाको मुर्कुच्चे भन्ने ठाउमा केन्द्र विन्दु भएको वि.सं. २०४५ साल भाद्र ५ गते गएको ६.७ रेक्टर स्केलको भूकम्पले काठमाडौं उपत्यका, पूर्वि पहाड र तराइका ६,५०० भन्दा बढी घरहरू भत्काउनुका साथै ७ सय २१ जनाको ज्यान लिएको थियो। हालै मात्र २०६२ साल असोज २२ गतेका दिन पाकिस्तानमा गएको ७.६ रेक्टर स्केलको महाभूकम्पबाट मर्नेहरूको संख्या ७५,००० अनुमान गरिएको छ।

वि.सं. २०४५ सालको भूकम्पबाट क्षति पुगेका घरहरूको अध्ययनको आधारमा अब निर्माण हुने घरहरू भूकम्प प्रतिरोधात्मक हुन सकून् भन्ने उद्देश्यले त्यसबेलानै “राष्ट्रिय भवन निर्माण संहिता” (Nepal National Building Code) को वृहत् खाँचो महसूस गरियो र तत्कालीन आवास तथा भौतिक योजना मन्त्रालयले भवन विभागको समेत संलग्नतामा

आ.व ०५०।५१ सालमा UNDP/UNCHS (Habitat) को सहयोगमा “राष्ट्रिय भवन संहिता” बनाउने निधो गरियो।

यस सन्दर्भमा भन्नु पर्दा त्यसबेला नेपालको लागि “राष्ट्रिय भवन निर्माण संहिता” निर्माण गर्ने जमर्को त गरियो तर त्यसबेला नेपालको भवन संहिता सम्बन्धी खासै कुनै Data, Standard वा Research भएको थिएन। त्यसैले विकसित मुलुकको भवन संहितालाई अध्ययन गरी नेपाललाई सुहाउँदो भवन निर्माण संहिता तयार गर्ने निष्कर्ष गरियो र विभिन्न विकसित मुलुकहरूको भवन संहितालाई अध्ययन गर्दै नेपाललाई सुहाउँदो भवन निर्माण संहिता तयार गर्ने क्रममा भारतकै भवन संहितालाई आधार मान्ने विज्ञहरूद्वारा ठहर गरियो।

यस कामका लागि तत्कालीन “भवन विभाग” (हाल शहरी विकास तथा भवन निर्माण विभाग) का प्राविधिक विज्ञहरू लगायत विदेशी प्राविधिक विज्ञहरूमा BECA WORLY INTERNATIONAL CONSULTANTS LTD, NewZealand, Golder Associates Ltd, Canada / Urban Regional Research, USA थियो। र नेपाली Consultants df SILT Consult P. Ltd. / TAEC Consult (P) Ltd. थियो। यस कार्यको Review Expert Panel df University of Roorkee sf Professor Emeritus Dr. Anand S. Arya रहनु भएको थियो। साथै नेपालका लागि राष्ट्रिय महत्वको भवन संहिता निर्माण गर्ने क्रममा एउटा Advisory Panel पनि गठन गरियो। जसमा विभिन्न निकायका विज्ञहरू रहनु भएको थियो। त्यस पश्चात् नेपालका लागि ४ प्रकारका भवन संहिताहरू तयार गर्ने निधो गरियो जुन निम्न प्रकारका थिए:-

- १) इन्टरनेशनल स्टेट अफ आर्ट (International State of Art) : विकसित मुलुकमा अपनाइएको भवन संहिता समेतको अनुसरण गरी “इन्टरनेशनल स्टेट अफ आर्ट” मा आधारित हुने गरी बनाइने अत्याधुनिक भवनहरू।
- २) प्रोफेशनली इन्जिनियर्ड बिल्डिङ्स (Professionally Engineered Buildings): इन्जिनियर प्राविधिकहरूद्वारा

डिजाइन र रेखदेख गरी बनाइने प्लिनथ एरिया १,००० वर्ग फीटभन्दा बढी भएका, तीन तला भन्दा बढी भएका तथा स्ट्रक्चर स्पान ४.५ मी. भन्दा बढी भएका महत्वपूर्ण भवनहरू ।

- ३) म्यान्डेटोरी रूलस् अफ थम्ब (**Mandatory Rules of Thumb**) : व्यावसायिक इन्जिनियर तथा प्राविधिकहरू उपलब्ध नभएका ठाउँहरूमा मध्यमस्तरको प्राविधिकको रेखदेखबाट बन्ने प्लिनथ एरिया १००० वर्ग फीटसम्म, तीन तलासम्म तथा स्ट्रक्चर स्पान ४.५ मी. सम्म भएका साधारण भवनहरू ।
- ४) ग्रामीण क्षेत्रका लागि भवन निर्देशिका (**Guidelines for Remote Rural Buildings-Low Strength Masonry / Earthen Buildings**): दैनिक रूपमा प्राविधिकको रेखदेख उपलब्ध गराउन नसकिने दुर्गम स्थानका दुई तलासम्मका घर तथा छाप्राहरू ।

२० वटा पुस्तकहरूमा प्रकाशित उक्त संहितामा भारतको भवन संहितासंग आवद्ध भएको कुरालाई नकार्न सकिँदैन किनभने धेरैजसो प्रोफेसनली इन्जिनियर्ड (Professionally Engineered) भवन संहिताहरू भारतको भवन संहितासँग आवद्ध गरी हेर्नु पर्दछ । यसो किन गरी बनाइयो भन्ने कुरा धेरै प्राविधिकहरूको जिज्ञासा हुन सक्छ । यसको कारण भारतको भवन संहितालाई आधार मानी नेपालको भवन निर्माण संहिता तयार गर्ने क्रममा त्यसबेला हामीसँग नेपालको आवश्यक Research data, Standard हरू थिएनन् । कतिपय Research data, Standard र दस्तावेजहरू Indian Standard को हुबहु नसारी नहुने भयो । तर Indian Standard मा उल्लेखित Copyright ले गर्दा त्यसो गर्न सकिएन । त्यसैले नेपालको भवन संहिता भारतको भवन संहितासंग आवद्ध गरि हेर्नु पर्ने भयो । Copyright सम्बन्धी कुरा गर्दा त्यस बेला India को Code Committee को Chairman समेत रहनु भएका Dr. Anand S. Arya ले के जानकारी गराएका थिए भने नेपालको गुणस्तर तथा नाप तौल विभाग र Indian Standard Institute बीच सम्झौता भएमा Indian Standard लाई अङ्गीकार गरी Nepal Standard बनाउन सक्ने कुरा औल्याइएको थियो । यसैको फलस्वरूप नेपाल गुणस्तर तथा नापतौल विभागले विभिन्न सरकारी तथा संघ सस्थाका विज्ञहरूको प्रतिनिधिहरू भएको “अङ्गीकार प्राविधिक समिति” गठन गरी Indian Standard लाई अङ्गीकार गरी Nepal Standard बनाउने कार्य पनि हुँदै आइरहेको छ । यसबाट नेपालको राष्ट्रिय भवन

संहितामा उल्लेखित बुँदाहरूलाई अध्ययन गर्न सजिलो भएको छ ।

राष्ट्रिय भवन संहिता लागू गर्ने सम्बन्धमा UNDP/ UNCHS (Habitat) र यस विभागबाट तयार गरिएको स्ट्रक्चरल कोडलाई समायानुकूल आवश्यक संशोधन गरी विभिन्न विपेशज्ञहरूको राय तथा सुझाव सहित मिति २०६०/१२ मा अन्तिम रूप दिइएको थियो ।

त्यस्तै राष्ट्रिय भवन संहिता लागू गर्ने सम्बन्धमा आर्किटेक्चरल कोड (Architecture Code), विद्युतीकरण (Electrical Code), स्यानेटरी कोड (Sanitary Code) पनि समावेश गर्नको लागि आवश्यक कोड तयार गरियो । आर्किटेक्चरल कोड (Architecture Code) लाई Institute of Engineering (TU), Society of Nepalese Architects (SONA), Society of Consulting Architects and Engineering Firms (SCAEF) आदि विभिन्न पेशागत सस्थाका विपेशज्ञहरूको राय तथा सुझाव सहित मिति २०५९/११/१४ मा अन्तिम रूप दिइयो । त्यस्तै इलेक्ट्रिकल कोड (Electrical Code) लाई नेपाल विद्युत् प्राधिकरण, Society of Electrical Engineering Nepal (SEEN) आदि विभिन्न पेशागत सस्थाका विपेशज्ञहरूको राय तथा सुझाव सहित मिति २०६०/१२ मा अन्तिम रूप दिइयो । त्यस्तै स्यानेटरी कोड (Sanitary Code) लाई खानेपानी तथा ढल निकास विभाग र नेपाल खानेपानी संस्थानका विपेशज्ञहरूको राय तथा सुझाव सहित मिति २०६०/१४ मा अन्तिम रूप दिइयो ।

यसरी पहिले तयार गरिएका २० वटा कोडहरूको अलावा आर्किटेक्चरल कोड (Architecture Code), विद्युतीकरण (Electrical Code) र स्यानेटरी कोड (Sanitary Code) समेत ३ वटा कोडहरू थप गरी राष्ट्रिय भवन निर्माण संहिता, २०६० लाई पूर्णता दिइएको छ । हाल यी संहिताहरू Digital Format (CD) मा पनि उपलब्ध छन् ।

नेपालको हावापानी, भौगोलिक तथा भौगर्भिक परिस्थितिलाई सुहाउँदा राष्ट्रिय भवन संहिता, २०६० र राष्ट्रिय भवन संहिता, २०६० कार्यान्वयन-कार्यविधि मन्त्रपरिषद्को मिति २०६०/४/१२ को निर्णय अनुसार स्वीकृत गरी लागू गरिसकिएको छ ।

नेपालको भवनहरूलाई भूकम्प, आगलागी तथा अन्य दैवी प्रकोपबाट यथासम्भव सुरक्षित राख्नको लागि र भवन निर्माण कार्यलाई नियमित गर्न वान्छनीय भएकोले २०५५ साल आसार १८ गतेको नेपाल राजपत्रमा भवन निर्माण सम्बन्धी

“भवन ऐन २०५५” प्रकाशित भैसकेको छ र अब उप्रान्त बन्ने सबै प्रकारका भवनहरूमा प्रस्तुत राष्ट्रिय भवन निर्माण संहिता अनुसरण गरी बनाउनु पर्ने भनी “भवन ऐन २०५५” मा व्यवस्था भए बमोजिम २०६२ फागुण १ गतेको नेपाल राजपत्रमा सूचना प्रकाशित भैसकेको छ। जसअनुसार सबै नगरपालिका क्षेत्रहरू, जिल्ला सदरमुकाम रहेका गा.वि.स क्षेत्रहरू, नगरपालिका र सदरमुकाम रहेको तोकिएका गा.वि.स क्षेत्रहरूमा लागू भैसकेका छन्।

भवन निर्माण संहिताको कुशल एवं व्यापक प्रयोगबाट भविष्यमा बन्ने प्रत्येक घरलाई बढी भूकम्प प्रतिरोधात्मक बनाउन सकिन्छ भन्ने तथ्य तथा भवन संहिताका बुँदाहरूलाई सम्पूर्ण शहर तथा ग्रामीण समुदायमा व्यापक रूपमा फिजाइ जनचेतना जगाउनु आजको आवश्यकता हो। केही वर्ष यतादेखि नेपालमा पनि भूकम्पीय क्षति न्यूनीकरण गर्ने प्रयासहरू शुरु भएका छन्। यी मध्ये राष्ट्रिय भवन संहिता लागू हुनु एउटा महत्वपूर्ण उपलब्धि हो। शहरी विकास तथा भवन निर्माण विभाग, सम्बन्धित नगरपालिकाहरू तथा गैर सरकारी संस्था, भूकम्प प्रविधि राष्ट्रिय समाज नेपालको संयुक्त आयोजनामा शहरी विकास तथा भवन निर्माणका २५ वटा डिभिजन कार्यालयहरू रहेका जिल्लाहरूमा डकर्मी तथा नाइकेहरूलाई भूकम्प प्रतिरोधात्मक भवन निर्माण सम्बन्धी तालीम सञ्चालन गर्दै आइएको छ। साथै हरेक वर्ष माघ २ गते “भूकम्प सुरक्षा दिवस” मनाउने कार्य पनि भई रहेको छ। यस विभागबाट इन्जिनियर तथा ओभरसियरहरूका लागि राष्ट्रिय भवन संहिता, २०६० तथा भूकम्पबाट सुरक्षित भवन निर्माण सम्बन्धी विभिन्न तालीम कार्यक्रमहरू पनि सञ्चालन गर्दै आएको छ।

तपाईं नयाँ घर/भवन निर्माण गर्दै हुनु हुन्छ भने निम्न कुराहरूमा ध्यान दिनुस्:-

- ईटको गारो लगाएर घर बनाउँदा ध्यान दिनु पर्ने कुराहरू:
 - ☞ जगको माटो तथा जमिनको अवस्था अनुसार जगको गहिराइ तथा चौडाइ पर्याप्त छ, छैन प्राविधिकको राय लिनुहोस्।
 - ☞ डि.पि.सि. लेल लगायत हरेक तल्लामा टाइबिम अवश्य हाल्नुहोस्।
 - ☞ दुईवटा वा सोभन्दा बढीको गारोको जोड्नेमा जगदेखि कम्तिमा पनि ५ लाइनको डण्डी जगैदेखि ठाडो गरी राख्नुहोस्।

- ☞ भ्याल, ढोका, गारोको जोड्नीभन्दा कम्तिमा २ फुट टाढा राख्नुहोस्।
- ☞ ठूलाठूला भ्यालहरू सकभर नराख्नुहोस्।
- ☞ भवनको लम्बाइ चौडाइको ३ गुणाभन्दा कम राख्नुहोस्।
- ☞ कोठाको लम्बाइ चौडाइको ३ गुणाभन्दा कम राख्नुहोस्।
- ☞ गारोको उचाइ गारोको मोटाइको १२ गुणाभन्दा कम राख्नुहोस्।
- ☞ धेरै कुना निस्किएको वा चौडाइको तुलनामा धेरै लामो आकृति भएको ज्यादै लामो किसिमको L वा U आकारको भवनहरू भूकम्पीय दृष्टिकोणले कमजोर हुने भएको हुँदा समरुप (Symmetrical) आकृतिको भवन मात्र बनाउनुहोस्।
- ☞ तीन तल्लाभन्दा अग्लो भवन बनाउनु पर्ने भएमा अवश्य प्राविधिकको राय लिनुहोस्।

अन्तमा:

नेपाल Earthquake prone Zone मा पर्ने भएको कारण यहाँ विनाशकारी भूकम्प आइरहने प्रबल सम्भावना देखिन्छ। भवन निर्माणको संहिताको पालना नभएसम्म कमजोर संरचनाहरू निर्माण भइ नै रहने छन्। त्यसैले भवन संहिताको समूचित परिचालनको अनिवार्यता बारे जनचेतना अभिवृद्धि गर्ने बारे विभिन्न गोष्ठी, श्रव्य-दृष्य सामाग्रीहरूका साथै निर्देशन पुस्तिकाहरू उत्पादन गरी प्रचार प्रसार गर्नु पर्दछ। विशेष गरी भवन संहिताका प्रावधानको कुशल एवं व्यापक प्रयोगबाट प्रत्येक घरलाई बढी भूकम्प प्रतिरोधात्मक बनाउन सकिने छ भन्ने तथ्य तथा भवन संहिताले गरेका सिफारिशका बुँदाहरूलाई सम्पूर्ण ग्रामीण समुदायमा व्यापक रूपमा फिजाउनका साथै जनचेतना जगाउनुका लागि आवश्यक प्रभावकारी उपायहरू पहिल्याउनु पर्दछ।

यस सम्बन्धमा राष्ट्रिय भवन संहिताको प्रयोग प्रति सबैलाई प्रोत्साहित गर्नु जरुरी हुन्छ। भूकम्प आएपछि हुनसक्ने सम्भावित असरहरूबारे सर्वसाधारण तथा सरकारी, गैर सरकारी एवं अन्य सबै संघसंस्थाहरूमा आवश्यक सचेतता बढाई यस सम्बन्धी पूर्व तयारीमा सक्रियतापूर्वक लाग्नु आजको एक प्रमुख आवश्यकता हो। भुँइचालो एक प्राकृतिक प्रक्रिया हो। यस्ता विनाशकारी प्राकृतिक प्रकोपलाई रोक्न सकिन्न तर समयमै बुद्धि पुऱ्याइएमा यसबाट हुने धनजनको क्षितिलाई अवश्य कम गर्न सकिन्छ।

आवास विकासका निमित्त निजी क्षेत्रको भूमिका

- बुद्धिनारायण श्रेष्ठ
अध्यक्ष

नेपाल जग्गा तथा आवास विकास संघ तथा सीमाविद्



मानिसलाई बाँच्नको निमित्त खाना, नाना र छाना आवश्यकता पर्दछ। एक टुक्रा जमिनमाथि छाना भएको आवास नभए मानिस सुकुम्बासी ठहरिन पनि सक्छ। त्यसैले विश्व बसोबास सम्बन्धी संस्थाले सबैका लागि आवास भन्ने नारा पनि चलनचल्तीमा ल्याएको छ। वास्तवमा मानिसको आधारभूत आवश्यकता परिपूर्तिका लागि आवास नभई नहुने वस्तुका रूपमा रहेको छ। यस परिप्रेक्ष्यमा नेपाल सरकारले कुनै पनि नेपाली परिवार छानारहित नरहनु भनी राष्ट्रिय आवास नीति, २०५३ तर्जुमा गरेको छ। यस नीतिको अध्याय २ को दफा २.३ अन्तर्गत प्रकरण १.३ मा सरकार र निजी क्षेत्रको सहभागिता तथा पूर्ण रूपमा निजी क्षेत्रद्वारा आवास तथा जग्गा विकास कम्पनीहरू स्थापना गर्न प्रोत्साहन प्रदान गर्ने भन्ने कुरा उल्लेख गरिएका छन्।

जनसंख्याको बढ्दो बृद्धिदरका आधारमा भविष्यमा आवश्यक पर्ने आवास एकाईहरूको पनि आवास नीतिमा अनुमान गरिएको छ। सो नीतिमा उल्लेख भए अनुसार नेपालमा सम्बत् २०५३ सम्ममा कुल ३० लाख आवासीय घरहरू रहेका थिए। यसमध्ये ग्रामीण क्षेत्रमा २७ लाख र शहरी क्षेत्रमा ३ लाख घरहरू पर्ने आएका छन्। २०५३ देखि २०५८ सम्ममा शहरी क्षेत्रमा ५.३ प्रतिशतले र त्यस्तै गरी २०५९ देखि २०६३ सम्ममा प्रतिवर्ष ५ प्रतिशतका दरले थप आवासीय भवनहरूको आवश्यकता पर्ने अनुमान गरिएको थियो। यस अनुसार शहरी क्षेत्रमा मात्रै वार्षिक करिब १५ हजार थप घरहरू बन्नुपर्ने आँकडा निस्कन्छ।

हिजो आजको जमानामा सबै कुरा सरकारी स्तरबाट मात्र गरेर साध्य र सार्थक हुँदैन। विकाशशील जमानामा निजी क्षेत्रको सहभागिताबेगर विकास निर्माणको काम चाहे जति मात्रामा हुन सक्दैन। उदाहरणका निमित्त एक दशक अघिसम्म पूर्वाधारको मेरुदण्डका रूपमा रहेको सडक निर्माण कार्य नेपाल सरकारले अमानतमा आफै गर्दथ्यो। तर अब निर्माण कार्य प्राइभेट कन्ट्र्याक्टर कन्सल्ट्यान्टलाई सुम्पने गरिएको छ। आवश्यक तथा दिइएको मापदण्डअनुसार बने नबनेको भन्ने सम्बन्धमा सरकारी स्तरबाट चेक, जाँच, निरीक्षण गरिन्छ।

आवास तथा बसोबासको निमित्त सर्वसाधारण नेपाली जनतालाई आवश्यक पर्ने घर सामान्यतया सरकारीस्तरबाट बनाई बिक्री गर्ने परिपाटी अहिलेसम्म चलेको पाइँदैन। केवल सरकारी भवन शहरी विकास तथा भवन निर्माण विभागद्वारा निर्माण सुपरीवेक्षण गर्ने गरिएको पाइन्छ। त्यसैले सामान्य जनताका लागि आश्रयका निमित्त चाहिने घर आफैले तथा निजी क्षेत्रका आवास कम्पनी तथा जग्गा विकास कम्पनीले निर्माण गर्दै आएका छन्। केही वर्षदेखि खास गरी शहरी क्षेत्रमा प्राइभेट आवास कम्पनीहरूले वैज्ञानिक, स्वास्थ्यकर तथा किफायती घरहरू बनाउने प्रचलन बढेर आएको छ। घडेरीधनी आफैले एकल घर बनाउँदा महँगो लागत पर्ने भएकोले शहरी बासिन्दा यस्ता आवास कम्पनीमा भरपर्ने गरेका छन्। यस परिप्रेक्ष्यमा नेपाली जनताको आवासको मात्र परिपूर्ति गर्ने काम सरकारको दायित्व हो। तापनि सरकारलाई सघाउन निजी क्षेत्रका व्यवसायीहरू लागिपरेका छन्। सरकारले यस्तो काम निजी क्षेत्रलाई सुनियोजित तरिकाले सुम्पनु पनि पर्छ।

काठमाडौं महानगरपालिकाभित्र मात्रै वर्षेनी घटीमा ५ हजार घरहरू आवश्यक पर्ने देखिन्छ। किनकि यतिकै मात्रामा घरहरू बन्दै गरेका छन्। यत्रो मात्रामा बन्ने घरहरूको निर्माण कार्य सरकारीस्तरबाट सम्भव हुँदैन। यसैले आवास निर्माण तथा घर घडेरीको विकास गर्ने काममा सरकारले निजी क्षेत्रलाई प्रोत्साहन तथा सुविधा प्रदान गर्नु अपरिहार्य भएको छ।

यस परिप्रेक्ष्यमा सरकारले तोकेको मापदण्डको परिधिभित्र रही प्राइभेट कम्पनीहरू आवास निर्माण कार्यमा जुटिरहेका छन्। खासगरी महानगरीय तथा उपमहानगरीय क्षेत्रमा यस्ता कम्पनी खुलेका छन्। यी आवास कम्पनीहरूले आवासको बढ्दो मागलाई परिपूर्ति गर्दै सरकारलाई सहयोग गर्ने भूमिका खेलिरहेका छन्।

निजी क्षेत्रका जग्गा तथा आवास विकास कम्पनीहरूलाई एकै छातामुनि गोलबद्ध गर्न २०५३ फागुन १३ गते नेपाल

जग्गा तथा आवास विकास संघ स्थापना भएको छ । राष्ट्रिय आवश्यकता र बदलिँदो परिस्थितिअनुसार जग्गा तथा आवास विकासको काममा बढी व्यापकता ल्याई राष्ट्रको जग्गा तथा आवास विकास गर्ने निकायलाई सुव्यवस्थित एवं सुदृढ पाउँदै वैज्ञानिक किसिमले यस क्षेत्रको विकास गरी राष्ट्रको अर्थतन्त्रलाई दरिलो गर्ने काममा ठोस योगदान पुऱ्याउने यस संघको मुख्य उद्देश्य रहेको छ । यस संघ अन्तर्गत हालसम्म ५४ रजिष्टर्ड कम्पनीहरू सदस्य रहेका छन् ।

यस संघ अन्तर्गतका आवास विकास कम्पनीहरूले Independent Housing, Apartment, Colony, Group Housing, Flat System, Detached, Semi-Detached, Row Housing, Low Cost Housing आदि निर्माण गरी सेवा प्रदान गरिरहेका छन् । केही वर्षदेखि काठमाडौं उपत्यका, पोखरा उपत्यका तथा पूर्वाञ्चलका केही जिल्लाहरूमा सामूहिक/संयुक्त आवासको लहर नै चलेको छ । यस्तो आवासको व्यवस्था गरी बिक्री वितरण गर्ने कार्यले समाजमा निकै लोकप्रियता पाउन थालेको छ । किनभने आवासीय भवन खरिदकर्ताले जग्गा खरिद गर्ने र भवन निर्माण गर्ने दुवै प्रकारको भन्कटबाट मुक्ति पाउँछ । खास गरी विदेशमा काम गरी रेमिटान्स पठाउने व्यक्तिहरूका लागि शहरी क्षेत्रमा एउटा सानै भए पनि घर बनाउने चाहना यस्ता कम्पनीहरूले पूरा गरिदिएका छन् । यस्तै जग्गा विकास गर्ने कम्पनीहरूले बाँफो जग्गामा बाटो, सडक खोली ढल निकास, खानेपानी, विद्युत, तथा टेलिफोन लाइन आदिको पूर्वाधार प्रबन्ध गरी जग्गालाई पाको बनाई आवश्यकता अनुसारको क्षेत्रफलमा जग्गाको प्लानिङ प्लटिङ गरी विकसित घडेरीको सेवा पुऱ्याइरहेका छन् ।

निजी क्षेत्रको जग्गा तथा आवास विकास कम्पनीहरूलाई राष्ट्रियरूपमा समेट्ने नेपाल जग्गा तथा आवास विकास संघ सन् १९९७ देखि International Real Estate Federation (FIABCI) को Principal Member भएको छ । कतिपय FIABCI World Congress मा संघले नेपाल राष्ट्रको प्रतिनिधित्व गरेको छ भने Habitat सम्मेलनमा संघका सदस्यहरूले भाग लिएका छन् । यसबाट नेपालमा भएको जग्गा तथा आवास विकासको प्रयास, गतिविधि र सरकारीस्तरबाट निजी कम्पनीहरूलाई प्रदान गरिएका अवसर तथा कठिनाइहरूका बारेमा संसारका अन्य देशहरूलाई जानकारी गराउन सकिएको छ । यस्तै विश्वका अन्य देशहरूले विकसित तथा वैज्ञानिक तरिकाले गरेको आवास विकासको हाम्रो देशको माटो पानीलाई सुहाउँदो उन्नत प्रविधि नेपाल भित्र्याउन पनि मद्दत पुगेको छ ।

संघअन्तर्गतका कम्पनी तथा फर्महरू भौतिक योजना तथा निर्माण मन्त्रालय अन्तर्गत शहरी विकास तथा भवन निर्माण विभाग एवं काठमाडौं उपत्यका नगर विकास समितिको नीति नियमानुसार आफ्नो काम अधि बढाउन कटिबद्ध रहेका छन् । संघले सरकारी निकाय र सेवा प्रदायक व्यावसायिक कम्पनीहरूका बीच माध्यमका रूपमा काम गरिरहेको छ । सरकारी नीति नियम जग्गा तथा आवास उपयोगकर्ता माझ पुऱ्याउन र उपयोगकर्ता तथा व्यवसायी कम्पनीहरूको दुःख तकलिफ र काम गर्दा आइ परेका बाधा अड्चनहरू सरकारी निकाय समक्ष प्रस्तुत गर्ने काम संघले गर्दै आएको छ । यस्तैगरी सरकारीस्तरबाट संरचना गरिने घर जग्गा सम्बन्धी कारोबार ऐन तथा नियमावलीका सम्बन्धमा संघले सकारात्मक प्रतिक्रिया तथा सुझावहरू समय समयमा प्रस्तुत गरेको छ । साथै जग्गा तथा आवास विकासलाई सुनियोजित गरी शहरी विकासलाई व्यवस्थित गर्ने, जग्गा एकीकरण गर्ने तथा बाहिरी चक्रपथ जस्ता सरकारी निकायले आयोजना गरेको कार्यशाला गोष्ठी एवं छलफलमा संघका सदस्यहरूले सक्रिय भाग लिई सुझाव प्रस्तुत गर्ने गरिएको छ । समय समयमा सम्बन्धित सरकारी निकायहरूमा प्रस्तुत गरिएका यस्ता सुझावहरू यहाँ उल्लेख गर्नु प्रासङ्गिक नै होला, जुनचाहिँ यसप्रकार रहेका छन् :-

- निजी फर्मले प्रस्तुत गरेको Planning Permit सम्बन्धी आवेदन गरिएको परियोजनामा स्वीकृति गर्न मिल्ने-नमिल्ने ३५ दिनभित्र निर्णय हुनुपर्ने । यस समयभित्र जानकारी प्राप्त नभएमा स्वीकृत भएको मानिने प्रावधान नियमावलीमा प्रबन्ध हुनुपर्ने ।
- आवास विकास व्यवसाय पनि एक प्रकारको उद्योग भएकोले यसलाई चाहिने निर्माण सामग्री जस्ता समानहरू आयात गर्दा अन्य उद्योगले पाए सरह सुविधा पाउनु पर्ने । यस्तो प्रबन्ध भएमा आवास उपयोगकर्ताले सस्तोमा आवास पाउन सक्छन् ।
- जग्गा तथा आवास सम्बन्धी नयाँ नीति निर्माण गर्दा सरोकारवाला व्यवसायी र सरकारी निकाय बीच व्यापक छलफल पश्चात निर्णय हुनुपर्छ ।
- सम्बन्धित ऐनका कतिपय दफाहरूमा तोकिएको मापदण्ड अव्यावहारिक तथा समयानुकूल नभएकोले सुधार एवं संशोधन हुनुपर्छ ।
- Planning Permit लिने सिलसिलामा Approach Road ७ मिटरको हुनुपर्छ भन्ने मापदण्ड भएकोमा पुरानो बस्ती क्षेत्रमा यो कुरा अव्यावहारिक हुने भएकोले उक्त प्रावधानलाई समय सापेक्ष हुने गरी सुधार एवं संशोधन गरिनु पर्ने ।

- Land Planning Scheme निजी क्षेत्रका रजिष्टर्ड कम्पनी/फर्महरूले पनि गर्न पाउने कानूनी व्यवस्था हुनु समय सापेक्ष भएको छ ।
- Guided Land Development योजना अन्तर्गत परेका जग्गा रोक्का गर्नु परेमा जग्गा खरिद गर्दाकै अवस्थामा रोक्का हुनुपर्छ । जग्गा खरिद गरी विकास गरिसकेपछि GLD निम्न अन्तर्गत रोक्का हुनु हुँदैन ।
- घरजग्गा व्यवसायीहरूबाट जग्गा खरिद बिक्री गर्दा दोहोरो रजिष्ट्रेशन शुल्क लिइनु उचित नभएकोले व्यवसायीले जग्गा खरिद गर्दा मात्रै शुल्क लिइनु पर्छ । दोहोरो रजिष्ट्रेशन शुल्क लिइँदा उपभोक्तालाई आर्थिक भार पर्न गइरहेको छ ।
- काठमाडौं उपत्यका नगर विकास समितिजस्ता बोर्ड तथा अन्य समितिमा नेपाल जग्गा तथा आवास विकास संघलाई सदस्यका रूपमा संलग्न गराएमा यसबाट निजी कम्पनी/फर्महरूलाई संयोजन तथा नियन्त्रण गर्न सम्बन्धित सरकारी निकायलाई सजिलो पर्न जान्छ ।
जग्गा तथा आवास विकास व्यवसायीहरूको क्षेत्रगत अनुभवमा बटुलिएका यस्ता समसामयिक सुझाव कार्यान्वयन गरिएमा सरकारी तथा निजी क्षेत्र एकआपसमा हातेमालो गर्दै नेपाली जनताको निमित्त चाहिने घरघडेरी र आवासको पूर्ति सर्वसुलभ तरिकाले पुऱ्याउन खोजिएको ठहरिन सक्छ ।



शुभ-विजया दशमी २०६३ को सुखद् अवसरमा

सुस्वास्थ्य, दीर्घायु एवं सुख-समृद्धिको

हार्दिक मङ्गलमय शुभकामना

व्यक्त गर्दछौं ।

सम्पादक मण्डल

शहरी विकास तथा भवन निर्माण विभाग

बबरमहल, काठमाडौं

शहरी वातावरण व्यवस्थापन निर्देशिका

- भूषण तुलाधर
वातावरण र जनस्वास्थ्य संस्था (एन्फो)

तीव्र तथा अनियन्त्रित शहरीकरण र सम्बन्धित निकायहरूमा यो प्रक्रियालाई व्यवस्थित गर्न आवश्यक क्षमता र स्रोतको कमीले गर्दा नेपालका शहरी क्षेत्रको वातावरण दिनानुदिन ह्रासोन्मुख हुँदै गइरहेको छ। बढ्दो फोहरमैला र फौहर पानी, वायु प्रदूषण जस्ता समस्याहरूले गर्दा नगरपालिका एवं नगरवासीहरूको लागि वातावरण व्यवस्थापन एउटा ठूलो चुनौती बन्न पुगेको छ। शहरी वातावरण सुधार गर्ने उपायहरू बारे नगरपालिका एवं अन्य सम्बन्धित निकाय र सर्वसाधारणलाई समेत जानकारी दिन र शहरी वातावरण व्यवस्थापन कार्यमा सबैलाई प्रेरित गर्न हालै शहरी विकास तथा भवन निर्माण विभाग र वातावरण र जनस्वास्थ्य संस्था (एन्फो) ले शहरी वातावरण व्यवस्थापन निर्देशिका तयार गरेका छन्।

शहरी वातावरण व्यवस्थापन निर्देशिकामा समावेश गरिएका विषयहरू :

- ◆ शहरी वातावरणको वर्तमान स्थिति
- ◆ शहरी वातावरण व्यवस्थापनका नीतिगत र कानूनी पक्षहरू
- ◆ फोहोर मैला व्यवस्थापन
- ◆ हानीकारक फोहर व्यवस्थापन
- ◆ वायु प्रदूषण नियन्त्रण
- ◆ खानेपानीको आपूर्ति तथा गुणस्तर
- ◆ सरसफाइ तथा जल प्रदूषण नियन्त्रण
- ◆ खुल्ला क्षेत्र तथा हरियाली व्यवस्थापन
- ◆ सम्पदा संरक्षण
- ◆ व्यवस्थित शहरीकरण

शहरी वातावरण व्यवस्थापनका नीतिगत र कानूनी पक्षहरू

नेपालमा शहरी वातावरण सम्बन्धी छुट्टै नीति वा नियम नभए पनि अन्य केही नीति नियमहरूमा शहरी वातावरण व्यवस्थापन सम्बन्धि केही प्रावधानहरू छन्। राष्ट्रिय संरक्षण रणनीति, २०४५, नेपाल वातावरणीय नीति तथा कार्ययोजना, नेपालका लागि दिगो विकासको एजेन्डा, र दशौं योजना (२०५९-२०६४) समेतले शहरी वातावरण व्यवस्थापन र

प्रदूषण नियन्त्रणलाई जोड दिएको छ। यसैगरी वि.सं. २०५३ मा फोहरमैला व्यवस्थापनको लागि छुट्टै नीति तर्जुमा गरिसकेको छ। तर यी नीतिहरूको कार्यान्वयनमा केही कमीकमजोरी रहेकोले सम्बन्धित निकायहरूले नीतिहरूको कार्यान्वयन तर्फ ध्यान दिनु पर्ने देखिन्छ।

शहरी वातावरण व्यवस्थापन सम्बन्धी कानूनी प्रावधानहरूको सम्बन्धमा स्थानीय स्वायत्त शासन ऐन, २०५५ ले नगरपालिकाहरूलाई शहरी वातावरण व्यवस्थापन सम्बन्धी जिम्मेवारीहरू दिनुको साथै फोहरमैला व्यवस्थापन, सरसफाइ, ढल निकास आदि सुविधा उपलब्ध गराए वापत सेवा शुल्क लिने र कसैले जथाभावी फोहर फालेमा वा वातावरण दुर्गन्धित गर्ने कार्य गरेमा त्यस्तो फोहर हटाउन लाग्ने खर्च समेत सम्बन्धित व्यक्तिबाट असूल गरी पन्ध्र हजार रुपैयासम्म जरिवाना गर्ने अधिकार समेत दिएको छ।

यसै गरी वातावरण संरक्षण ऐन, २०५३ र नियमावली, २०५४ ले कुनै पनि योजना कार्यान्वयन गर्नु अघि त्यसबाट हुन सक्ने वातावरणीय असर पत्ता लगाउन प्रारम्भिक वातावरणीय अध्ययन वा वातावरणीय प्रभाव मूल्यांकन गर्नु पर्ने भनेको छ र सोको लागि आवश्यक विधि तोकिदिएको छ।

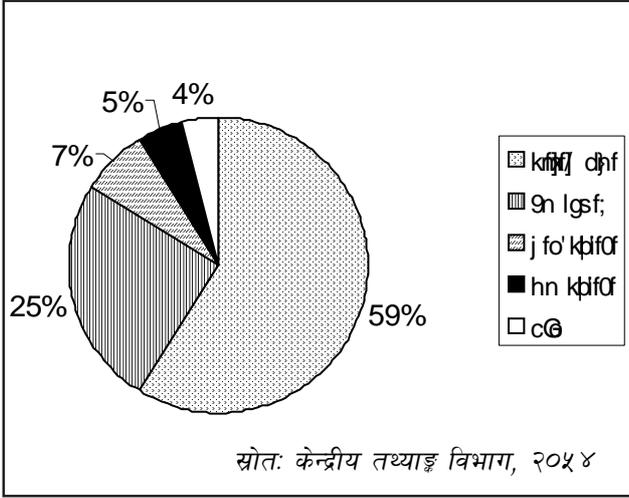
काठमाडौं उपत्यकाको फोहरमैला व्यवस्थापन गर्न फोहर मैला (व्यवस्थापन तथा स्रोत परिचालन) ऐन, २०४४ लागू गरेको थियो। हाल स्थानिय स्वायत्त शासन ऐन लागू भइसकेको सन्दर्भमा यो ऐनलाई संशोधन गर्न आवश्यक भइसके तापनि यसलाई सन्दर्भ सामाग्रीको रूपमा प्रयोग गर्न सकिन्छ।

शहरी वातावरण व्यवस्थापन निर्देशिकाले यी नीति एवं कानूनहरूको कार्यान्वयनमा सहयोग गर्नेछ।

नेपालमा शहरी वातावरण व्यवस्थापनका प्रमुख समस्या

करीब दश वर्ष अघि तथ्याङ्क विभागले गरेको एक सर्वेक्षण अनुसार अधिकांश शहरवासीहरूले फोहोर मैलालाई प्रमुख वातावरणीय समस्याको रूपमा हेर्ने गर्छन् र अन्य समस्याहरूमा ढल निकास, वायु प्रदूषण र जल प्रदूषण पर्ने गर्दछन्।

शहरवासीहरूको विचारमा प्रमुख वातावरणीय समस्याहरू



यी समस्याहरू साधारणतया ठूला शहरहरूमा बढी देखिने गर्छन्। अझ काठमाडौंमा त फोहोर मैला व्यवस्थापन, वायु प्रदूषण र जल प्रदूषण एकदमै ठूलो समस्या भइसकेको छ। अन्य शहरी क्षेत्रहरूमा पनि यी समस्याहरू बढ्दो क्रममा छन्। नेपालका शहरी क्षेत्रमा बढ्दै गइरहेको वातावरणीय समस्याले जनस्वास्थ्य र अर्थतन्त्रमा समेत प्रतिकूल असर पर्ने भएकोले यसलाई समयमै नियन्त्रण गर्न अति आवश्यक भइसकेको छ।

समाधानका उपायहरू

शहरी वातावरणीय समस्याहरू जटिल देखिए तापनि यसका समाधानका लागि सरल उपायहरू पनि छन्। यसका केही उदाहरणहरू निम्नानुसार छन्:

फोहोर मैला व्यवस्थापन : फोहोरको उचित व्यवस्थापन नगरे यसले प्रदूषण, रोग, दुर्गन्ध जस्ता अनेकौं समस्या निम्त्याउन सक्छ। तर यसको महत्व बुझी राम्ररी व्यवस्थापन गर्न सके स्थानिय स्रोतको सदुपयोग भई यसले आर्थिक विकास र रोजगार प्रवर्धनमा मद्दत पुऱ्याउन सक्छ। तर हाल नेपालका नगरपालिकाहरूमा उत्पादन हुने वार्षिक करीब ५ लाख टन फोहोरको संकलन एवं उचित व्यवस्थापन हुन सकिरहेको छैन र अधिकांश नगरपालिकाहरू फोहोरलाई अनियन्त्रित तवरले डम्प गर्दै छन् भने केही ल्याण्डफिल साइटको खोजीमा छन्। तर ल्याण्डफिल भनेको फोहोर व्यवस्थापन गर्ने महङ्गो विधि हो। फोहोर व्यवस्थापन गर्ने विभिन्न उपायहरूमध्ये सबैभन्दा उपयुक्त विकल्प फोहोरको उत्पादन घटाउनु र पुनः प्रयोग गर्नु हो। घरेलु फोहोरमा करीब दुई तिहाई वा सोभन्दा बढी तरकारी, घाँसपात जस्ता जैविक फोहोर हुन्छन् भने बाँकी प्लाष्टिक, कागज, ढुंगा, बालुवा जस्ता अजैविक फोहोर हुन्छन्। जैविक फोहोरलाई कम्पोस्ट मल बनाएर पुनः प्रयोग गर्न

सकिन्छ भने नकुहिने अजैविक फोहोरलाई छुट्टै सङ्कलन गरेर विक्री गर्न वा अन्य काममा प्रयोग गर्न सकिन्छ। पुनः प्रयोग गर्न नसकिने फोहोरलाई मात्र ल्याण्डफिलिङ्ग गर्नु पर्दछ।

हानीकारक फोहोर व्यवस्थापन : फोहोर व्यवस्थापन गर्दा वातावरण वा मानव स्वास्थ्यमा बढी हानी पुऱ्याउने हानीकारक फोहोरहरूलाई अलग्गै संकलन गरी व्यवस्थित तवरले जलाउने वा गाड्ने गर्नु पर्दछ। हानीकारक फोहोर मध्ये शहरी क्षेत्रहरूमा चिकित्साजन्य फोहोर बढी उत्पादन हुने गर्दछ। साधारणतया अस्पतालहरूमा उत्पादन हुने करीब ८० प्रतिशत फोहोर साधारण फोहोर हुन्छ र बाँकी २० प्रतिशत मात्र हानीकारक हुन्छ। त्यसैले अस्पतालको फोहोर व्यवस्थापन गर्दा सबै भन्दा महत्वपूर्ण कार्य साधारण र हानीकारक फोहोरलाई स्रोत मै छुट्टयाउनु हो।

वायु प्रदूषण नियन्त्रण : सवारी साधनहरूबाट उत्पन्न हुने वायु प्रदूषण नियन्त्रण गर्न गुणस्तरिय इन्धनको प्रयोग, कम धुवाँ फाल्ने सवारी साधनको प्रयोग, सवारी साधनहरूको नियमित मर्मत संभार र यातायात व्यवस्थापनमा विशेष ध्यान दिनु पर्दछ। यसैगरी कम इन्धन खपत गर्ने प्रविधिहरूको प्रयोगले उद्योगहरूबाट हुने वायु प्रदूषण घटाउन सकिन्छ। यसको साथै फोहोरलाई सडक वा अन्य खुल्ला ठाउँहरूमा फाल्न वा बाल्न नदिएर, सडकहरूको नियमित मर्मत संभार गरेर, धूलो उड्ने सामानहरू ढुवानी गर्दा छोपेर लानु पर्ने व्यवस्था गरेर र यस्ता सामग्रीहरू जथाभावी थुपार्न नदिएर पनि शहरभित्र वायु प्रदूषण कम गर्न सकिन्छ।

खानेपानीको गुणस्तर : क्लोरिनेशन र सौर्य शक्तिको प्रयोग गरी धरैमा सरल तरीकाले खानेपानीलाई प्रशोधन गर्न सकिन्छ।

सरसफाई तथा जल प्रदूषण नियन्त्रण : मलमूत्रबाट हुने प्रदूषणलाई नियन्त्रण गर्न घरमै सेप्टिक टैंक वा मल चर्पी जस्ता प्रविधिहरूको प्रयोग गर्न सकिन्छ वा ढल मार्फत मलमूत्र लगायत अन्य फोहोर पानी संकलन गरी केन्द्रीय स्थलमा प्रशोधन गर्न सकिन्छ। फोहोर पानी प्रशोधन गर्न सरल र कम खर्चिलो कृत्रिम सिमसार प्रविधि प्रयोग गर्न सकिन्छ।

खुल्ला क्षेत्र तथा हरियाली व्यवस्थापन : स्थानीय समुदाय र निजी क्षेत्रको सहभागितामा शहरमा भएका खुल्ला ठाउँहरूलाई खेल मैदान, पार्क, बगैँचा र हरियाली क्षेत्रको रूपमा व्यवस्थित गर्न सकिन्छ।

शहरी वातावरण व्यवस्थापन गर्ने कार्यमा नगरवासीहरूको प्रत्यक्ष सरोकार रहने भएकोले यस्ता कार्यहरूलाई प्रभावकारी एवं दिगो बनाउन स्थानीय समुदायहरूको परिचालन र सक्रिय सहभागिताको समेत आवश्यक पर्दछ। यसैगरी वातावरण व्यवस्थापन सम्बन्धी

केही कार्यहरू सरकारी क्षेत्रले भन्दा निजी क्षेत्रले प्रभावकारी तवरले गर्न सक्ने र आवश्यक पर्दा विशेष प्रकारका प्राविधिक ज्ञान र लगानीसमेत ल्याउन सक्ने भएकोले निजी क्षेत्रलाई पनि वातावरण व्यवस्थापनमा सहभागी गराउन सकिन्छ।

शहरी वातावरण व्यवस्थापनका विभिन्न पक्षहरू र थुप्रै उपायहरू भएकोले यस बारे राम्रो ज्ञान हासिल गर्न र उपयुक्त विधिहरूको सही प्रयोग गर्न शहरी वातावरण व्यवस्थापन निर्देशिकाले सबैलाई सहयोग गर्नेछ।

हेटौंडाबाट शहरी वातावरण व्यवस्थापन सिकौं



हेटौंडाको हरियाली र फोहर व्यवस्थापन

हेटौंडा शहर भ्रमण गर्ने जो कोही पनि यहाँको वातावरणबाट प्रभावित नभई रहन सक्दैन। बाटाका किनारमा लामबद्ध तवरले हरिया रुखहरू लगाइएका छन् भने शहरमा जथाभावी फोहर फालिएको पनि विरलै देखिन्छ। नेपालमा शहरी वातावरण व्यवस्थापनमा नगरपालिकाहरूले चाहेमा सीमित स्रोतबाट पनि धेरै गर्न सकिन्छ भन्ने उदाहरण हेटौंडाले पेश गरेको छ। यसको लागि नगरपालिकाले स्थानीय समुदाय र निजी क्षेत्रसँग साभेदारीमा विभिन्न रचनात्मक कार्यहरू गर्दै आइरहेको छ। यसका केही उदाहरणहरू निम्नानुसार छन्:

- ◆ २०५४ सालमै शहरका मूल सडकमा दाँया-वाँया अशोका वृक्षहरू लगाई यसको हेरचाह गर्ने जिम्मा नजिकैका घरहरूलाई दिइयो।
- ◆ प्लास्टिकको फोहरलाई नियन्त्रण गर्न स्थानीय क्लब र उद्योग वाणिज्य संघसँग हातेमालो गरी प्लास्टिकको प्रयोगमा कमी ल्याउनुको साथै फोहर प्लास्टिक संकलन र पुनः प्रयोग गर्न सुइरो अभियान संचालन गरियो।
- ◆ घर घरमा फोहरबाट मल बनाउन 'कम्पोस्ट बिन' वितरण गरिनुको साथै आवश्यक तालीमसमेत दिइयो।
- ◆ फोहर संकलन र व्यवस्थापनको लागि निजी क्षेत्रलाई परिचालन गरिएको छ।
- ◆ बसपार्कका सार्वजनिक शौचालयहरू र त्यस वरिपरिको बगैँचाको व्यवस्थापनको जिम्मा स्थानीय आर्दश टोल विकास संस्थाहरूलाई दिइएको छ।
- ◆ स्थानीय पुष्पलाल पार्कको व्यवस्थापन गर्न गौतम नर्सरीसँग साभेदारी गरिएको छ।
- ◆ चिकित्साजन्य फोहर छुट्टै रिक्सा मार्फत संकलन गरी व्यवस्थापन गरिन्छ।

Sustainable Development and Principles of Sustainability in Urban Design*

Some vilify cities as congested urban centers which generates waste and pollution, others sing their praise as an engine of economic growth, centre of culture and innovation and a magnet of hope.

These perceptions have had a major influence on the configuration and articulation of the urban agenda.

The first UN Conference on Human Settlement was held in Vancouver in 1976. The urban agenda was shaped to redistribute resources and redress problems of inequity particularly between urban and rural areas. Urban issues were strongly linked to the social and economic development of countries.

In the late 1980s and beginning of the 1990s government initiatives focused on sectoral interventions. Development aid concentrated on housing related issues such as land and infrastructure management, building materials and technology and the mobilization of finance for the urban poor.

In these years private sector emerged as a new actor and the concept of "Sustainable Development" started to receive worldwide attention. In 1970s environmentalists blamed uncontrolled urbanization and promoted an "Ideal" rural life. The "Green" agenda developed in these years by environmentalists was revisited through a new approach to sustainable development. It established a connection between people, human settlements and sustainable development, identifying key technical interventions in areas such as physical planning, water and sanitation, energy and urban transport. Human activity was blamed for most of the environmental hazards facing the world and the emphasis was on curbing the activity to safeguard the environment for present and future generations.

The interest in sustainable development was further strengthened in the late 1980s by the 1987 Brundtland Commission Report which stated that sustainable development could not be achieved without considering the needs of the world poor. The report acknowledged that "poverty" is a major cause and effect of global environmental problems. The international community believed that the poor, due to their lack of resources and capital, caused deforestation, water and air pollution and a whole range of environmentally unfriendly practices. The Commission advocated economic growth in developing countries to improve the quality of life for the poor.

Sustainable development is dependent on the ability of national economies to accelerate economic growth

-Surya B. Sangachhe

Deputy Director General DUDBC



in order to generate the surplus needed to accommodate the basic needs of the poor. But the economic growth was not having the desired effect of both reducing poverty or saving the environment.

In early 1990s a new thought emerged and UN Conference on Environment and Development held in Rio-de-Janeiro in 1992 clearly showed that most environmental damage was being caused by the rich industrialized nations not by poor people or poor nations.

UN Conference on Human Settlements (Habitat II) in 1996 placed the urban agenda on the top of the world development agenda by adopting Habitat Agenda - a blue print for policy and actions in the years to come. The focus of the Habitat Agenda was on the role of local government, civil society and the private sector, particularly with regards to the provision of basic services and shelter, decentralization policies and women's empowerment and sustainable development was being debated again, but this time within the context of sustainable human settlements development. This encompassed both the economic and social dimensions of sustainable development.

Habitat Agenda paved the way for the inclusion, in the Millennium Declaration, of a specific urban target, calling for cities without slums. When the development goals contained in the Millennium Declaration were given clear and time bound target in 2002, the slum target was incorporated into the international development agenda. This was an important recognition that sustainable development is not possible in an environment of increasing urban inequalities.

Three decades after the first UN Conference on Human Settlements and 23 years after the United Nations used the phrase sustainable development for the first time (1983), the international community met again in Vancouver in World Urban Forum (WUF III) in June 2006 to discuss the sustainable city.

* *Subject material collected from discussion paper & dialogue conducted in WUF III*

Today, sustainability issues are radically different not only between developed and developing countries, but also among developing nations. It is not only a matter of approaches but also of cultural awareness, technical capacities and financial resources. In this sense sustainability is strongly linked to different levels of development. No country or city in the world can claim to have achieved a certain level of sustainable development if one third or half of its urban population lives in poverty. How sustainable is a city where the bulk of the population is deprived of an adequate shelter with basic services and tenure security ?

Any policy pertaining to the achievement of sustainable development has to start with agreements on all sides-rich and poor (countries and people); socially and politically included and excluded populations of the necessity for change and a clear recognition of an unsustainable status quo. The definition sustainable development has profound political connotations that should be considered alongside the technical solutions.

Principles of sustainability in urban design are :-

I Principle - Good and plentiful jobs close to home

Integrating job sites into the community creates opportunities to walk or ride to work and reduces reliance on passenger vehicles. Sustainable communities foster local economic opportunities and growth. Residents can find employment close to home. Government policies and local infrastructure support local businesses and individual enterprise.

II Principle-Mixed use corridors accessible to all

High density corridors are easily accessible to many residents by foot, bike or car. Multi-modal access boosts commercial activity, transit use and social vitality. Sustainable communities allow residents to live, work, shop and play in their local areas. Land and public infrastructure are designed for multipurpose and mix use. Transportation corridors and commercial arterials provide both commuter mobility and access to multiple services and daily activities. Corridors enable diverse transportation choices, including access and movement for pedestrians, bicycles, transit and automobiles.

III Principle - Five minute walking distance

Interconnected street systems link residents with the services they need. Residents who live within a five minute walk of frequent transit service are more likely to choose transit as a mode of travel than those who live further away. In order to be effective, transit must also be located within a five minute walk of their destination (i.e. job sites). Sustainable communities have compact neighborhoods with an interconnected street network that

ensures quick access to commercial and public services and amenities. Streets and arterials are designed for walking, cycling and transit access not just for cars.

IV Principle - Access to natural areas and parks

The principle of easy access to linked green spaces includes local streets, major and minor parks, schools, protected areas, neighborhood parks and buffers. This linked system of green spaces within the community satisfies social, recreational and educational demands while meeting important ecological goals. Sustainable communities respect the natural function of the landscape, particularly agricultural land, stream systems and aquatic habitats. Well designed communities integrate natural systems with human activities, placing high value on community access to natural systems and parks. Sustainable communities maintain and restore ecosystem functions. Effective ecosystem management and restoration can achieve significant energy efficiencies, cost savings and environmental benefits.

V Principle - Lighter, greener, cheaper

Sustainable communities optimize the economic, social and ecological impacts of buildings and infrastructure. Innovative development standards and practices will reduce community and environmental impacts as well as private, public and taxpayer costs of development and infrastructure. Low impact solutions such as green infrastructure and natural drainage systems will save money over the long-term, ensuring the sustainability of economic growth. Natural drainage systems in which storm water is held on the surface and allowed to seep naturally into the ground protects against downstream degradation such as stream bank erosion and increased water temperature which is a byproduct of conventional storm water management systems. Using natural systems to collect and filter storm water reduces infrastructure costs.

VI Principle - Different housing types

A range of housing types allows residents of differing economic situations to live in the same neighborhood and have access to the same services. More compact development requires less infrastructure resulting in few roads per person, less land per house, fewer car trips per person and more accessible transit. Accommodating a broad range of housing types and tenure into the same neighborhood helps to create a diverse and socially cohesive community. The principle of mixed housing types promotes integration and symbiosis between different family types and ages as a way of strengthening the larger community.

Cities of Hope

Dr. Jibgar Joshi

(An eminent regional and urban planner)



I. INTRODUCTION

This short essay aims at a brief assessment of what have been tried and achieved in Nepal since the first World HABITAT Day in order to deepen our understanding on how we may be able to turn our cities to those of hope instead of slums and despair.

As per the UN resolution of December 17, 1985, World HABITAT Day was first observed in 1986 to draw attention to the deplorable living conditions of a large number of people. Let me quote what the Executive Director of UN-HABITAT then conveyed to the world community:

“One-quarter of the world’s population, over one billion people, do not have adequate housing; one hundred million are actually homeless; eating and sleeping along public streets in the world’s cities....”

In order to draw attention to these issues, the United Nations General Assembly has designated the first Monday of October of each year as World HABITAT Day. It has also designated 1987 as the International Year of Shelter for the homeless (IYSH).”

Nepal also observed the day with many activities. “Basic Housing Plan, 1987 – 2000”, was brought out in a seminar. It was a lucky coincidence that Nepal was at that time preparing basic needs program and housing was recognized as a basic need.

Looking back, the plan, to my mind, has influenced poverty alleviation strategies. It was a good beginning and a good sign that housing was linked with poverty right from the start. Most of the policies that followed are focused on poverty. Even at that time, it was possible to choose between what was socially affordable and the so-called Asian standards.

I mention it as the dilemma is still not over and we have to respond to MDG - 7. MDG - 7 is environmental sustainability. We are yet to link it with slums in our own context. In 1986, when the plan was prepared, standards were set at a level affordable by the society as a whole. At that time it was looked first with skepticism. However, it got widely publicized and lots of initiatives, changes and projects emerged. In other words, there was a seriousness to implement it. Today, this is not the case. MDG – 7 remained ignored for a long time. Although now there is some attempt to

understand it, I do not think it ever got a priority in high level meetings.

Nepal worked on those days to enable all to provide themselves with basic housing by 2000. Today, if we were to meet MDG - 7, we have to deal with the population living in slums. Sadly, it is taking a long time to understand the implication of such a goal. It seems the population living in slums will rise if we are not serious about it. The HABITAT day, this year reminds us of this commitment of ours.

Section II tries to briefly evaluate the achievements that we made. This is followed by the problems that we face today and the hopes we cherish. Based on this, the last section pleads that families and communities are the only viable institutions that would create and emulate cities of hope in the future.

II. EVALUATION OF ACHIEVEMENTS

Over the years, although the absolute poverty has fallen down, relative poverty has increased. However strategies for alleviating poverty failed to deal with urban goods and services. Due to implosion, these became relatively scarce; their production more and more costly, beyond the reach of the urban poor. With more investments both from the private and the public sector, costs have increased.

The efforts were at the beginning focused on increasing the access of all to the elements of housing. Over the years, achievements in some areas have been enormous. These are briefly described below.

a) Urban land supply

There has been an increase in the supply of urban land. This is due to land pooling projects. However the investments made in infrastructure are not fully recouped and the cost of maintenance went on increasing. Nor the access of the poor could be raised significantly. While the supply increased, most of the plots were kept idle for the sake of speculation. Serving the few and getting more return is the way the private sector operates.

b) Decentralization

Local bodies now enjoy most of the power that used to be the prerogative of the center. There is a great deal of transfer of power from the center to them but people could not be adequately involved in the development of municipalities. There is a growing centralization due to their partnership with the center.

c) Housing finance

It is now available through many banks and other financial institutions but their policy is also to serve a few and work on high spreads. The cost of finance has thus increased and become less affordable. Urban development has created lots of wealth. But the wealth could not be invested for making cities more livable.

In most of the cases we are definitely nearer to the goal but the final steps are more demanding in the context of the political realities of the country and hence are extremely difficult to achieve. The growing interest of the business and government on the quick short term financial returns may pose the greatest hurdle and act as a barrier to change. This will disable the people.

III. PROBLEMS AND HOPES

The urban poor are not necessarily without work today. Poverty is the condition that is said to exist when people lack the means to satisfy their basic needs. It is not easy to define the basic needs. Basic needs for bare survival are no more the major issue. Those nearing the borderline of death and starvation are going to be few. The beggars are seen in temples only. The problem today of urban places is not so much related with nutrition and clothing. In relative terms these are less scarce. A large portion of the income is spent on food and clothing. The problem is that the community as a whole is getting poorer when judged from the perspective of the access to health, education, sanitation, water and so on.

Social goods have become relatively scarce. The costs of their production and management have increased. This has led to insufficient productivity of our cities to compete with the outside world. More than the intra-city differentials, the poverty of the city as a whole is likely to make our cities the centers of despair.

Urban places are areas where more can be produced with less resource. Very soon they will house most of the poor. It is widely held that the poor coming to the cities get lost in a metropolis. But this is not the case with us. The ability of a city to absorb different types of the people in all income groups depend on its

cosmic nature. Not only that the access of the poor should be enhanced, they should run it in the way they like. Just as IYSH empowered the people to manage their shelter, it is possible to empower families and communities to improve their ambience. This will also help to sustain the local autonomy. But unfortunately, people find less or no time today to build the social capital for themselves. They pay for or remain deprived of the environmental services that used to be made available through their own works in the past.

IV. CONCLUSION

Although the absolute poverty level might have decreased in most cases, urban poor are not in a position to enjoy the minimum amenities. Sadly enough, poverty in relative terms has increased in urban places. We may not be able to alleviate poverty if we fail to link it with the growth of slums. The goal will still be far off.

Nevertheless, cities remained the magnet of hope for the people flooding from rural areas. Their hope for a better and happier life in the city is more likely to be frustrated.

Nepal had no other alternative in 1986 than to help to increase the access of all to the elements of housing to enable them to provide with housing. This turned out to be realistic in the political sense and encouraged to move towards the social optimum in adopting standards. Similarly, today, there is no other alternative than to rely on the families and communities to take care of their ambience and make cities places of hope.

The link between the social affordability and wishful standards should be understood in this sense. The gap between the two should be narrowed down. People have become impatient and are looking for a transparent and affordable governance.

Through a deliberate policy to get rid of market failures, the rights of the poor can be protected. And it is possible to raise productivity and income and use a significant part of this to make our cities more livable.

Living in slums is a sign of poverty. It is also linked with environment. Things will change with more power with the people. They should be allowed to own their environment. They should not be subject to any sort of threat of eviction or exclusion. The power should be used to generate hope not despair. This would help to improve the living standard of the people. This will make cities the magnets of hope, instead of despair.

Kathmandu Roads: Pointing in the Right Direction

- **Amrit Siddhi Bajracharya**

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Roads are paths established over land for the passage of vehicles, people, and animals. Roads aid in the movement of people and goods from one place to another. There are many types of roads, and they range from dirt paths to concrete-paved multilane highways.

Modern methods of road construction with waterproof surfaces and better drainage systems were first developed in the 18th century. Modern roads are able to handle the high volumes and stresses of automobile and truck traffic. Road system is an important part of our urban structure and is used by various modes of transportation. Many modern services such as electricity, water supply, gas supply, drainages and sewerages are delivered through these road systems. Fire departments, medical services, and other government agencies depend on the system of roads to provide emergency and other services safely and efficiently to the public. In this way, roads carry in them or under them almost all aspects of urban infrastructure and communication systems. Thus, good and efficient road plans can reduce the cost of investment and maintenance on these services.

In Nepal, there are a number of line agencies that are associated with road construction, maintenance and traffic management. The Department of Roads is looking into matters of road construction and maintenance. Similarly, the Department of Transportation Management and the Traffic Police are other agencies looking into traffic and transportation management. The Department of Roads has classified the national level roads into three categories: Highway, Feeder Road and District Road. These roads are found to be generally differentiated by the level and types of settlements they connect. Thus, district roads are roads that connect important places within the districts. Feeder Road is a higher hierarchy of road and acts as an intermediate road that connects district roads to highways. Highways are the highest category of roads that connects zones and development regions with each other; or, in other words, The connect the whole of the

country by carrying traffic from one point of the country to another.

Besides these three categories of roads there are a totally different set of roads. These are the urban roads. In Nepal, the Ring Road of Kathmandu is one of the highest standards of urban road built so far. Roads like the Ring Road of Kathmandu are arterial roads. Arterial roads act like arteries of blood circulation system of a human body by carrying the main bulk of traffic and distributing them to the other road network system of the city. Arterial roads are at times also classified as primary roads with lesser hierarchy roads classification followed by secondary and tertiary roads. Primary or arterial roads are highways of urban centers in the sense that they connect the whole of the city by distributing the bulk of urban traffic and are also designed to carry large volumes of traffic at relatively high speeds. The efficiency and the speed at which the volume of traffic these arterial roads can transport from one point to another can be taken as an indicator of good urban management and planning.

Roads to perform efficiently as designed need to be governed by "**Right-of-way**". Right-of-way controls two basic factors of the road system. One aspect is the physical characteristics signified by the width, length and area of the road. This is translated into the number and type of lanes that the road is designed for. Lanes can be pedestrian, parking or traffic lanes which are both slow and fast. This in turn influences the volume, speed and direction of traffic the road can carry. The other aspect of right-of-way is access control. Access control can be full access control, partial access control or no access control. Access control is the control on the type of vehicle that is allowed on the road. It is also the control of the time, direction and the type of vehicles that are allowed to operate on the road. The above types of access

control are being efficiently used in Nepal by the Traffic Police for proper traffic management. However, a very important aspect of access control in terms of the place and number of points at which the road is allowed to be

forgotten that just as roads afford ample scope for public participatory use, they also afford equal scope for misuse.

Insufficient Use of Right-of Way Regulation: the Cause of Haphazard Urban Growth

The accelerated haphazard urban growth recorded in Greater Kathmandu area after the construction of Ring Road in 1976 can be presented as being caused by insufficient implementing of appropriate right-of-way regulations on the Ring Road. The decadal data record of the growth of built-up area, sparse-density land use and low-density land use of Greater Kathmandu starting from 1954 onwards help to portray the haphazard growth experienced in Greater Kathmandu in terms of urban sprawl.

Prior to the construction of the Ring Road, built-up area's rate of increment was about 2 to 4 percent and urban sprawl defined by low and sparse density land use covered 27.22 percent of built-up area. But, after the

construction of the Ring Road, built-up area's rate of increment was about 2 to 4 percent and urban sprawl defined by low and sparse density land use covered 27.22 percent of built-up area. But, after the construction of the Ring Road, built-up area's rate of increment was about 2 to 4 percent and urban sprawl defined by low and sparse density land use covered 27.22 percent of built-up area. But, after the construction of the Ring Road, built-up area's rate of increment was about 2 to 4 percent and urban sprawl defined by low and sparse density land use covered 27.22 percent of built-up area.

YEAR	Built-up Area (Hectares)	Area of Ring Road (Hectares)	Built-up Area (Hectares)	Urban Sprawl (Hectares)	Percentage of Built-up Area (%)	Area of Creation (Hectares)
1954*	1060.66	16.45	67.34	34	27.22	3068
1964*	1187.55	18.38	67.34	34	27.22	3068
1971*	1486.00	23.00	67.34	34	27.22	3068
1981*	2999.89	46.44	67.34	34	30.68	3068
1991#	3388.32	52.45	67.34	34	48.72	3068
2001#	4350.39	67.34	67.34	34	47.45	3068

Arterial roads of urban areas can be viewed and equated with railroads in terms of access control. As we all know, railroads by their inherent physical and mechanical system restrict use to bogies and engines that it is designed for and allow passengers to ride on it or stop at specified railroad stations only. But arterial roads do not have this inbuilt mechanism to control misuse. In this aspect, roads afford wider scope of participatory use by the general public by running their private cars and vehicles on the roads while railroads afford very little scope in their way for the general public to participate in this manner. Roads therefore have the flexibility for the individual to travel at will and to manage their travel time as well. However, it should not be

With the nation now planning to construct an Outer Ring Road in the capital city of Kathmandu, it is appropriate that we review the ways we are using urban roads as tools for better urban planning and hence better development. Let us start by questioning ourselves, "What is most appropriate for Kathmandu Valley: Outer Ring Road or Ring Railroad ?" A debatable topic. Let us phrase this differently. "Can we efficiently manage and use our roads in the way we planned them for ? Is there any doubt on our ability to enforce the appropriate right-of-way regulations when and where needed ?" If we have any doubts answering these questions, then it may be wise to opt for Ring Railroad instead of Outer Ring Road. The negative impacts caused by the misuses of the Outer Ring Road may be a price too heavy to pay.

While we ponder over the appropriateness of Outer Ring Road, it may be good to review some of the statistical data of Kathmandu Valley. Road statistics of

1990 show that roads in Kathmandu are mostly single lane roads which are 589 kms in length. Double lane roads form 139 kms of Kathmandu's road length while four lane roads are quite insignificant (12 kms long). However, there are possibilities of upgrading some existing double lanes to four lane roads. It was found that Kathmandu roads serve around 50 percent of the Valley area on the assumption that each road serves an area of half a kilometer to the left and half a kilometer to the right of it. Another recent study of land use of the Kathmandu Valley shows that 28 percent of the Valley is built-up. Tallying these two figures, it can be assumed that roads in Kathmandu Valley are adequate in terms of total length and area served by these roads for future urban growth. However, almost all of these roads do not have the capacity for large volumes of traffic nor do they support fast traffic. This present condition and road standard is one of the principal cause for high air pollution. Our sincere effort to manage our city may be what is really required to restore its past beauty and at the same time make it more clean and efficient.

Roads are a very important aspect of urban planning. Well designed and managed roads not only serve the city efficiently but also enhance its beauty. The Outer Ring Road is a very good proposition. It will help to connect the different settlements of the Valley with each other with a good motorable road. Otherwise these settlements were only connected with the central areas of Kathmandu with radial roads. But, is the Outer Ring Road what Kathmandu needs? Even the 'Long Term Development Concept of Kathmandu Valley-2000' prepared by the Kathmandu Valley Town Development Committee advocates against an Outer Ring Road on the basis that it will induce urban sprawl. This assumption is very much justified by present trends. If we are really concern about better, greener Kathmandu, should we not be reviewing some of the recommendations made by 'The Study on Kathmandu Valley Urban Road Development-1993' conducted by the Department of Roads. Whatever the choices that we opt for, it will definitely define the future of this city. So let us not make hasty decisions now and repent later by wasting limited resources trying to right our past wrongs.

जानकारी

शहरी विकास तथा भवन निर्माण विभाग, भवनसंहिता तथा प्रविधि हस्तान्तरण शाखाले
विक्रीवितरणमा ल्याएको भवन संहिता तथा भवन निर्माण निर्देशिका निम्न दर-रेटमा
विक्रीवितरण हुँदै आएको जानकारी गराइन्छ:

- १) भवन संहिता (अंग्रेजी) (२३ भागको एक सेट) - रु. ७५०१-
- २) भवन संहिता (अंग्रेजी) (२३ भागको एक सेट), सि.डि.डिस्कमा - रु. १५०१-
- ३) भवन निर्माण निर्देशिका (नेपाली संस्करण) चौथो संस्करण, २०६० -रु. १००१-*

* काठमाडौं उपत्यका नगर विकास समिति, अनामनगरबाट विक्री वितरण हुन्छ ।

Electronic Governance for Strengthening Good Governance

- By Suresh Dhoj Shrestha

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1. Understanding of e-Governance for Development

Information and Communication Technologies (ICTs) can make a significant contribution to the achievement of good governance goals. The Electronic Governance 'e-Governance' can make governance more efficient, more transparent and more effective, and bring other benefits too. E-governance is the application of ICTs to transform the efficiency, effectiveness, transparency and accountability of informational and transactional exchanges within the government, between governments and government agencies at national and local levels, citizens and businesses; and to empower citizens through access and use of information. Moreover, the most important thing is to *allow direct participation of constituents in government activities*.

Three main contributions of e-governance are:

- Improving government processes (e-administration);
- Connecting citizens (e-citizens and e-services); and
- Building external interactions (e-society).

2 Why e-Governance for Development?

The penetration of ICTs in all parts of human existence is leading to changes in the way humans interact within the society and the way societies involve individuals in the evolution process. The societies are increasingly getting transformed to knowledge societies and its inhabitants into knowledge networkers who are more informed of the events happening locally and globally. Their actions are based on the strong foundation of knowledge which is universal, objective, timely and triangulated from various sources. The people are becoming more aware of their rights and opportunities that lie ahead of them and are developing capabilities to make an informed choice in all areas that influence them, including the sphere of governance.

In this wired-up era, the inhabitants of the knowledge societies will have more freedom, flexibility

and opportunities to decide how and by whom they would like to be governed. The underlying truth will become self-evident that- **it is not the leaders who govern people but it is the people who let the leaders govern them.**

The widening use of ICT is restructuring knowledge and power structures. It is changing the political scene as it is reshaping democracy and the way informed citizens interact with the Government.

With the emergence of pro-active knowledge societies, the government will have no choice but to improvise to bring in greater efficiency, accountability and transparency in their functioning.

It is true all over the world that government in the developing nations costs too much, delivers too little, and is not sufficiently responsive or accountable. Good governance reforms aim to address these shortcomings. Yet progress – after many years of effort in implementing such reforms – has been much more limited than expected. E-Governance offers a new way forward, helping to improve government processes, connect citizens, and build interactions with and within civil society.

E-Governance at root has the power of ICTs, which provide three basic change potentials for good governance for development:

Automation: This refers to the replacement of the current human-executed processes, which involve accepting, storing, processing, outputting or transmitting of information. For example, it is the automation of existing clerical functions.

Informatisation: This focuses on supporting the current human-executed information processes. For example, it supports current processes of decision making, communication, and decision implementation.

Transformation: This aims to create new ICT-executed information processes or support new human-

executed information processes. For example, it creates new methods of public service delivery.

These change potentials, in turn, can bring five main benefits to governance for development either individually or in a combined manner.

Efficiency gains:

Governance that is cheaper: The government that produces the same output at lower total cost.

Governance that does more: The government that produces more output at the same total cost.

Governance that is quicker: The government that produces the same output at the same total cost in less time.

Effectiveness gains:

Governance that works better: The government that produces the same output at the same cost in the same time, but to a higher standard.

Governance that is innovative: The government that produces new output.

3. Why do we need to encourage E-governance in Nepal?

- Bring transparency in Government operations and govt. public interface.
- Improve the efficiency and effectiveness of the government's service delivery systems.
- Improve financial management
- Improve the efficiency of administration
- Dissemination of information to the private sector

Apart from these, ICT has made the path easier and introduced the concept of borderless society in this world. It is the most suitable and important sector for the development of Nepal considering its topography.

The e-Governance about which we are discussing is the key to realizing the vision of service excellence as it delivers "one-stop, non-stop" electronic governance services to all the Nepalese people. With an easy access to the government online, these benefits would be extended beyond the territory of Nepal, bringing the "Connected Government" to Nepalese all around the world.

4. e-Governance: Winds of Change

E-governance promises a plethora of benefits to the citizens by accelerating and automating the government-citizen interface and bringing about transparency in the functioning of the government. This will enable a healthy citizen-government interface. But this calls for a change in the traditional mindset of bureaucracy.

There are many initiatives taken by government organizations to publish their information on the web. Apart from this, the introduction of municipal e-Governance in 2003 by Rural Urban Partnership Programme (a joint Programme of Ministry of Local Development and UNDP/Nepal in coordination with Ministry of Physical Planning & Works and National Planning Commission) jointly with its partner municipalities paved the way for the preparation of National e-Governance Road Map of Nepal. At present, the High Level Commission for Information Technology (HLCIT) and National Information Technology Center (NITC)/Ministry of Environment, Science & Technology are taking lead role in preparing e-Governance Road Map. Thanks to the Government for allocating budget this year for implementing the e-Governance Road Map.

At the most fundamental level, e-governance would mean facilitating citizen-government interface by making it transparent and not just efficient. Now, such a definition is yet to be found out in its way in our context. There is a considerable enthusiasm at the individual department level driven by forward-looking individuals. But a cohesive movement is still lacking.

5. The problem of access

The political, commercial and other elite groups largely dominate new technologies. There is a little chance that meaningful increase in the democratic participation or even the structures and processes of representation will happen, unless the opportunity to take part in the use of new technologies is deepened and widened. This will require a greatly enhanced educational opportunities and a sharp decrease in the current levels of social exclusion to be found in most democratic societies. The technology alone may tend to emphasize the quantity and frequency of participation as against its quality in terms of prior deliberation and the extent to which it is representative of the society as a whole. Thus, *merely putting computers in a government office won't help*. We need to win the confidence of people (who are going to man them) because, the people will ingrain ways of living, thinking and working.

6. Pre-conditions of e-Governance

To replace the traditional governance by e-governance, a traditional set of rules and regulations need to be replaced by a new set of cyber laws. Additionally, the e-commerce requires a good consideration. All the methodologies and modalities of

the electronic transaction have to be worked out, so that nothing goes unaccounted. The overall objective of cyber laws should be to provide a self-contained, simple and enforceable set of rules, which facilitate e-transactions. Another aspect is the simplification of procedures, rationalization of various administrative processes and the restructuring of government. Mindset of bureaucrats would have to precede the efforts of e-Governance; else it will merely be the computerization of traditional manual activities. This would also mean de-layering or re-layering of decision-making levels,

leading to re-engineering and appropriate sizing of the decision-making as well as dealing machineries.

Use of Local Languages: Good governance is always delivered in local human conditions, with language being one of them. Language is very crucial in implementing ICTs in the process of governance. *Local language based systems are crucial for the impact of e-Governance at the grass roots level.*

जानकारी

दशौं पञ्चवर्षिय योजनामा उल्लेख भए अनुरूप यस शहरी विकास तथा भवन निर्माण विभागले स्थानीय प्रयासद्वारा शहरी विकास कार्यक्रम, गाउँ-नगर साभेदारी कार्यक्रम र नगरपालिकाहरूसँग सहकार्य गर्दै नगरपालिकाहरूको डिजिटल आधार नक्सा बनाउने कार्य आ.ब. २०६०।०६१ देखि शुरु गरिसकेको छ। तदअनुरूप आ.ब. २०६०।०६१ मा वीरगञ्ज उप-महानगरपालिका, आ.ब. २०६१।०६२ मा जनकपुर, इनरुवा, इलाम र मेचीनगर नगरपालिका र आ.ब. २०६२।०६३ मा राजविराज, बागलुङ, कलैया, गौर, जलेश्वर नगरपालिका र विराटनगर उप-महानगरपालिकाको डिजिटल आधार नक्सा तयार भई सम्बन्धित नगरपालिकालाई हस्तान्तरण समेत भैसकेको व्यहोरा अनुरोध गरिन्छ।

यस आ.ब. २०६३।०६४ मा पोखरा उप-महानगरपालिका, भद्रपुर, सिद्धार्थनगर एवं भिमेश्वर नगरपालिकाको डिजिटल आधार नक्सा तयार गर्ने क्रम चालु रहेको व्यहोरा समेत अनुरोध गरिन्छ। डिजिटल आधार नक्साहरू सम्बन्धित नगरपालिकाहरू एवं यस शहरी विकास तथा भवन निर्माण विभाग तथा यस अन्तर्गतका सम्बन्धित डिभिजन कार्यालयहरूमा समेत उपलब्ध भएको जानकारीको लागि अनुरोध गरिन्छ।

Food Green City: A Way of Achieving Millennium Development Goals in Nepal

– Dr. Sunil Babu Shrestha*



Background

United Nations designated every year first Monday of October as World Habitat Day. It started from 1986 with theme “Shelter is my right”. The new theme of every year, directly associated with cities continuously since 1997, has highlighted the importance of cities. The World Habitat Day of the year 2005 celebrated worldwide with the theme “*Millennium Development Goals and Cities*”. In Nepal also, Ministry of Physical Planning and Works, Department of Urban Development and Building Construction has continued its trend of celebrating it by organizing various programmes including a seminar on the selected theme. This theme points out the roles of cities for achieving the Millennium Development Goals (MDGs) and calls for an urgent action in the cities to address the issues of poverty, hunger, unsafe water, disease, illiteracy and environmental degradation by adopting a set of goals. In such background, this article tries to present Food Green City (FGC) as one of the option for creating a sustainable city with achieving MDGs.

Millennium Development Goals in Nepal

The time-specified targets, Millennium Development Goals for addressing poverty, hunger, disease, lack of adequate shelter, and promoting gender equality, education, and environmental sustainability are more relevant with poor country like Nepal, since it has been facing a great challenge for reducing the poverty and hunger.



A Glimpse of Urbanization Pattern of Kathmandu

Looking at world’s urbanizing scenario, the trend of urbanization is inescapable – more and more people in the developing world will be living in the cities. However, seeking for a better urban world by achieving MDGs is not an easy task. In the context of Nepalese situation also, cities have been suffering severely from the problem of slums and squatter settlements. According to Nepal Living Standard Survey 2003/04, “21.6% of households in the country’s cities have ‘less than adequate housing facility’ and 77.8% have ‘just adequate’” (NLSS 2003/04). This situation illustrates that so many aspects of poverty are associated with Nepalese cities.

Issues and Solution

The expansion of cities to accommodate more people is creating various consequences. Five major consequences are: loss of productive lands, traffic congestion and air pollution, underground hydrological modification, Change in consumption habits and affordability question in accessing food to low income urban resident. Generally, the food necessary for city’s dwellers is imported inside and the generated wastes are disposed outsidess. In such situation, the affordability of ‘adequate food’ for all to its urban dwellers, especially for the low-income urban dwellers, becomes a serious issue. However, this issue of making food available at an affordable price does not seem to be in local authorities’ responsibilities. “In Nepal, urban households spend largest share 40% of its total

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expenditure and 17.3% of households report that their food consumption is 'less than adequate', while 81.1% say it is 'just adequate' (NLSS, 2003/04). The cost of food in cities is high. To cope with it, in many cities, the urban poor living in squatter settlements maintain kitchen gardens and raise livestock to supplement their food requirements, even in small spaces available around their settlement. This type of urban agriculture, developed in an organized manner, could be a very suitable means to generate household incomes and improve the quality of urban diets for the targeted urban poor (who are generally less educated and unskilled).

Appreciating the importance of urban agriculture in urban livelihood and access to sufficient food as an important means for poverty reduction, a city is thus conceptualized where the benefits of urban and rural characteristics are coupled together to create a sustainable and healthy society. This new type of harmoniously blended city is conceptualized as **Food Green City (FGC)** – which could be an appropriate solution in reducing hunger and is directly linked with poverty, diseases and environment and also plays a positive role in achieving the MDGs.

What is Food Green City?

In the context of limited resources, a concept was formulated that looks green for functional as well as aesthetic purposes shifting green to productive green (green with food: having latent meaning environment with employment) and is designated as Food Green Concept (Green 21). Based on this concept, Food Green City (FGC) is envisaged. A Food Green City is a human settlement that enables its residents to live a good quality of life with minimum consumption of resources, in harmony with nature, culture and future. It is also a process of "restructuring the cities" and its ultimate goal is to establish spatial equity and perfection in urban ecosystem for the sustainable development with coexistence of man in natural system.

In FGC, urban agriculture is integrated with land use planning and urban management system (including solid waste management) for providing food, healthy and pleasant living environments, economical opportunities, gainful employment, social intercourse and cultural vibrancy in the city. This helps in converting *Carbon dioxide city* to *Carbohydrate city* and assists in creating pollution free and hunger free city.

Even though, cities do not have plenty of vacant lands, notable amount in urban areas are lying vacant and going useless unknowingly. There are many

examples of public lands, with plenty of vacant spaces, but having no meaningful use. Utilization of such lands as productive green spaces, as advocated in FGC could have ecological and economical benefits. Productive Green Spaces provide a wide range of tangible benefits such as food, fuel and fodder. In addition to this, they also provide intangible, yet valuable amenities, such as aesthetics, oxygen and reduce carbon dioxide & noise. The estimation of value of such multiple and diverse benefits obtained from productive green spaces is complex. Thus, the total benefits of it, have not generally understood by many of us. Against this backdrop, a preliminary benefit analysis was undertaken for 10 institutional areas of Lalitpur Sub-metropolitan city's vacant spaces to calculate tangible and intangible benefits. The benefits estimated are really high in value. If those institutions are willing to use their potential food green spaces as productive green areas, the total tentative benefit per annum exceeds NRs.10 millions. In the similar manner, if the government proceeds to implement FGC in its vacant areas, then substantial benefit can be attained. This clearly illustrates the economic value of FGC and consequently, this exhibits the high prospect of **Pro-Poor Public- Private Partnership Projects (6P)** in promoting the urban agriculture in the city using waste lands and compost that produced from composting of solid wastes.

Conclusion

The major challenge thus for all urban planners and policy makers is to attain suitable balance between urban population explosion and the issues of food necessity. One suitable and viable approach would be the implementation of Urban Agriculture, conceptualized in the Food Green City. This concept of FGC blends harmoniously the urban and rural characteristics in an urban setting. Consequently, helps in decreasing human impacts on urban environments by managing the three major problems namely: 1) Urban Food (Safety and Self-sufficiency), 2) Urban Poverty, 3) Urban Waste and Pollution. Looking at the situation of Nepalese cities, low population density and still available of sufficient agriculture lands, Nepal has high potentiality for applying Concept of Food Green City. If a mechanism to restructure the cities into FGCs is forthcoming, there is no doubt of attaining the physical, social and environmental benefits for achieving MDGs in Nepal. Then, the theme of this year's World Habitat Day- "**Cities: Magnets of Hope**" will be more realistic.

UN Habitat Day: Cities: Magnet of Hope

Regulating growth of cities to achieve human security

More than half of the world's population (3.3 billion people) live in urban areas and ninety percent of future population growth will be concentrated in cities of the developing countries clearly demonstrates that the world is becoming more urban both in territorial and demographic terms. Cities being complex, dynamic and centre for growth, are not only major locations for numerous socio-economic, environmental and political activities but they are also part of the network establishing tangible and intangible linkages both upstream to the national and international levels and downstream to their local subjects. A combination of push and pull factors has resulted in massive flow of population in the cities thereby increasing socio-economic inequalities, decreasing quality of life, marginalizing urban poor, degrading urban environment and ecology and intensifying natural disaster vulnerability. These are more threatening to human beings and integrity of states. Acknowledging the potentials of cities, the United Nations has decided the theme of this year's World Habitat Day to be celebrated on 2nd October 2006 as 'Cities – Magnets of Hope' to reflect on the state of human settlements and the basic right to adequate shelter for all including to remind the world of its collective responsibility for the future of the human habitat.

Nepal has been participating and implementing numerous UN programs on human settlement with varying degree of success. From the Eight Development Plan (1992-1997) the Government of Nepal has been prioritising on four different issues: establishing new ministries such as Ministry of Women, Children and Social Welfare and Ministry of Environment and Population together with formation of Environmental Protection Council, preparation of the National Environmental Policy and Action Plan and development of Sectoral plans; constituting National Committee for International

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Decade of Natural Disaster Reduction, forming National Commission on Sustainable Development with members from civil society and local bodies together with preparation of a country report on its Millennium Development Goals; Preparing National Building Code and its inclusion in Building Permit System in Kathmandu and Lalitpur, enacting Joint Apartment Act 2054 BS with development of private sector housing, preparing Urban Area Development Plans for 22 municipalities and Integrated Action Plan for 20 municipalities, and finally rectifying the Convention on Elimination of All Forms of Discrimination Against Women in 1991 and Beijing Declaration in 1995 and other similar treaties. As a result, Nepal has made encouraging progress in human development: the number of households served by electricity has increased from less than 1 percent in 1956 to 15 percent today; road networks have increased from 124 kilometres to nearly 20,000 kilometres; irrigation coverage has reached 38 percent of cultivated land; nearly all boys and 90 percent of girls now enrol in primary school; and the infant mortality rate has been cut in half. Moreover, significant progress in the fields of health, education and telecommunication has been realised.

Despite such achievements the cities in Nepal have been facing numerous problems due to poor governance, rising insecurity and political instability especially from the last many years thereby hindering its development process. About 14% of the total population of Nepal resides in the 58 municipalities whereas the Kathmandu Valley with five urban

centres alone accommodates 30.9% of total urban population with annual growth of 6% against the national average of 2.1%. Failure to regulate such rapid urbanisation through master planning and development control has numerous negative consequences. First, quality of life in the city has decreased due to high environmental pollution, traffic congestion and inadequate and inefficient urban services. Old vehicles with poor quality of fuel running in dilapidated streets, unregulated growth of bricks, cement and carpet factories in residential precincts, unmanaged solid waste disposal have intensified noise and air pollution (200 micrograms per cubic meter of dust or suspended particles, 484 microgram per cubic meter of NO₂ in one hour period in Kathmandu) beyond World Health Organisation's guidelines causing losses in workers productivity, health care and tourism of about NRs. 680 million per annum. Only 58% of urban household has access to piped water and the supply is highly inadequate and irregular. About 76 percent of urban population have access to toilets whereas 34% of households use covered drainage facilities. Vehicular speed has decreased to 20 km/hr in the inner area and 40km/hr in the Ring Road of the Valley with increase of road accident.

Second, housing deficit in the Valley till 2001 was 48,545 units with gross land of 809 hac. for population of 2,42,724 whereas the squatter settlements in Kathmandu alone increased from 17 locations with population of 2,134 in 1985 to 61 places with population of 11,862 in 2000. Disparity on income level is very high in Kathmandu as the bottom 60% earned only 5.8% compared to 85.4% by the top 20%.

Third, the rapid transformation of traditional building stocks at the historic core by vertical division and then haphazard renovation and reconstruction of them as well as the haphazard new construction in the peripheral areas irrespective of seismic risk are intensifying earthquake vulnerable. Illegal construction in urban areas is as high as 27% whereas more than 90% of construction is informal. Households in urban area need to spend higher percentage of their income on housing (28 %) and clothing (10%) with little money left for medicine and personal care (4%) and education

(4%) with very little or no money left for preparation of natural disaster. Last, demise of 'guthi' system, poor public awareness on cultural heritage and haphazard construction of buildings has degraded the past heritage created and preserved by our ancestors over many centuries.

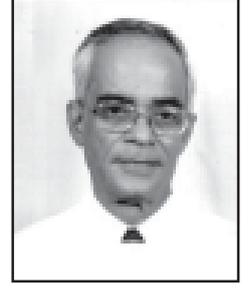
These weaknesses are the cumulative effects of numerous weaknesses. Though the programs and their aims are comprehensive, the mechanism to translate those broad objectives into more specific projects at local level is weak. Lack of analysis based methodology, concept of urban design, absence of master plans and development control at city (urban) level and inadequate and ineffective building bylaws, poor managerial, technical and financial capabilities of both national and local governments including weak coordination among the concerned agencies have not only constrained the best result in public projects but have also reduced the effectiveness of public private partnership programs as well as of private sector initiated housing and infrastructure works. To reverse this trend, the three actors of development namely research and academic institutes (think tank), government sector (rules and regulation preparation and enforcement) and private sector (expertise, efficient and strong in finance) should work in a team in managing rapid urbanisation and regulating the growth of cities addressing the cultural heritage, natural disaster vulnerability and present day needs of city dwellers. Fulfilling basic right of decent housing, social security in health and children's education and guarantee of job help motivate the workers thereby increasing productivity and competitiveness, which is essential in the era of globalisation and when Nepal is preparing for the member of World Trade Organisation. Building cities for economic and ecological sustainability, social justice, cultural continuation, democratic, productive, health – human security – not only provides enormous opportunities for citizens but it also opens door for international community for tourism, foreign direct investment and establishment of foreign firms including UN offices. Thus, cities as magnet of hope can be truly realised. This is the message of World's Habitat Day to Nepal.

Discipline in Urban Growth

- V Rajgopalan

President, Sunrise Towers

Executive Member, Nepal Land & Housing Developers' Association



Newsweek research bureau carried an interesting but alarming finding in its recent issue on urban drift of population in developing countries. Especially in India some states are showing a tendency of a drift of as high as 76% of the states' population towards urban centers and a general speculation of 50% of the population residing in urban centers is believed to come true within the next decade. Kathmandu being major resource center in the country the constant ever-increasing migration from the rest of the country to the valley is an observed phenomenon. According to a World Bank report of 1990 Kathmandu alone constituted 20% urban population of the country with a growth rate of phenomenal 5.3% very year. A recent survey indicates this figure increasing exponentially. This increasing urbanization with haphazard growth of traditional housing pattern is putting tremendous pressure on the existing infrastructure facilities afforded by the city. Traditional housing also consumes a lot of land as these are designed without taking into account of land use efficiency in relevance to the city. Government, looking into this predicament and also the slow pace of highly capital-intensive infrastructure development, adopted a policy of encouraging private developers in the area of urban housing development.

Traditional method of housing development is causing haphazard development, which create poor living environment, lack of infrastructural facilities, traffic congestion. Thus the housing development acts as an alternate solution to a needed change in life style.

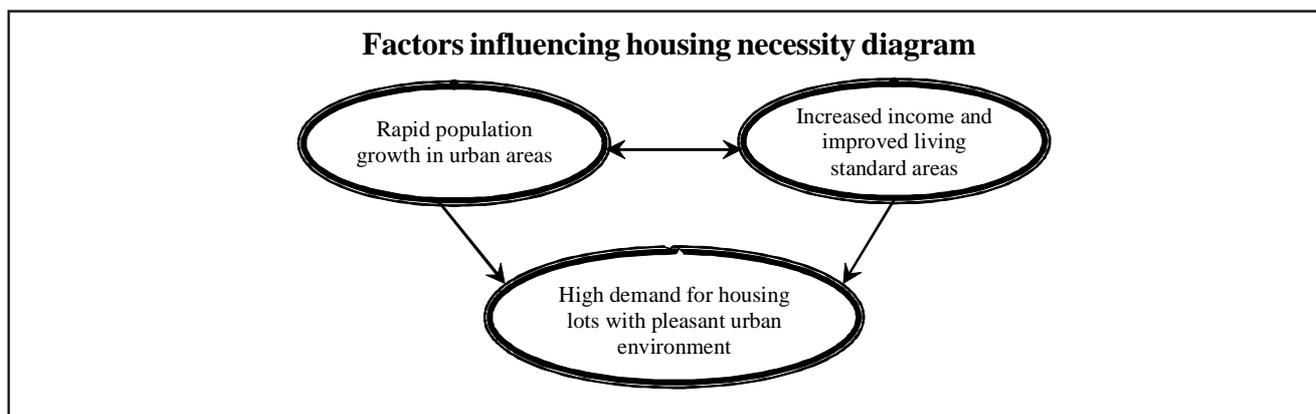
Housing is the most valuable asset for majority of people in the world and is assumed that people invest about 15 to 20 percent of their total incomes for shelter. Housing is an important indicator of nation's economic level of developmental stage. A national housing survey conducted in 1992 revealed that the yearly demand for housing was growing by over 5.3 percent in the Kathmandu valley and 24 percent of the population residing in the valley didn't have their own house (IUCN, 1998).

The housing demand is increasing day by day exponentially due to excessive inflow of the population either in search for better future or facilities and it has been further add up by the current political situation of the country. Housing demand of the country is so high that our country will require another 2.5 million housing units by the end of 2006 in addition to present 3 million units in which urban areas alone requires 430,000 (17%) of new units (NNHS, 1991). Government alone cannot fulfill the housing demand so the private sector, seeing the opportunities and after encouragement by the government through apartment ownership act and collective housing policy 1998, introduced itself in the field. This will certainly lessen the housing pressure in the valley. Traditionally housing has been regarded as unproductive sector for investment, so involvement of private sector was not very encouraging. But now with Nepal government's policy of housing department the private sector has emerged strongly as housing developers. Due to scarcity of land horizontal expansion is not possible so vertical expansion has also been initiated in a big way. Recently the government has accorded approval to the first high rise apartment complex Sunrise Tower to Sunrise Developer (P) Ltd as a pilot project to contain horizontal expansion. Only concepts like high-density housing and apartment complexes can provide answer to mushrooming urbanization of valley.

Housing and home are two different terms but they sound same. Home is a physical entity and it can be constructed by erecting walls and columns. But housing can be defined as the art of creating a living area through the acquisition of the land in which buildings are constructed with the provision of basic, social and cultural infrastructure. The concept of private group housing has emerged from the industrial countries where large number of industrial workers had to accommodate in residential quarters very near to working places.

Common facilities like open space, parking area, playground, road were shared among occupants of the dwelling units. In our case this concept is introduced due to rising demand for housing and scarcity of land. This will also compensate for the city's slow pace in infrastructure development.

private housing is a positive sign, the uncontrolled growth may lead to dissatisfy buyers, which will certainly derail the process of private housing sector in the near future. The government at the earliest should make plan of land use of the whole area and the private developers allowed to develop laying stringent requirement like



The necessity of group housing arisen due to:

- High cost of land.
- Owners are unable to spend time and energy in the construction
- Poor mobilization of housing finances for individual households.

Private housing in the valley has been launched with the prime objective of providing houses to needy people with adequate provision of basic infrastructure services such as roads, drainage, water supply, open spaces etc. Government initiatives in housing supply have been very slow and have not had any significant impact on the housing market due to their limited number and size. On the other hand the group housing projects being developed by private sector are completing in rapid pace. The current trend of organized group housing is increasing housing supply and will greatly contribute to the housing stock.

Major problem faced by developer is consolidation of land. Developers are facing difficulties in land acquisition and development, which is considered to be major constraint in the development of group housing. The land acquisition act empowers only government to acquire private properties for public purposes and hence government should show an initiative in acquiring land and distribute to the private developers. The government has done admirable job of encouraging the private investor in the housing area. Although the growth of

percentage green areas, percentage of high income group (HIG), middle income group (MIG) and low income group (LIG), allocation of shopping area recreational area, services etc. This way the government can also predict in advance the requirement in terms of service and provide accordingly and in time. This if implemented properly can result to proper housing for people of all income and strata. Since at the present pace we cannot make up with the yearly increasing demand of the housing need, it is now imperative that we also start looking for other types of materials. Many developed and developing countries has been using materials other then RCC and brick for decades which are durable, earthquake proof and which can be constructed at a very fast pace.

A need for a well appointed central building research institute as a wing of science and technology department of government of Nepal will be a welcome tool to private developers for reducing costs in making housing within easy reach of majority of populace.

Currently private housing has reached a reasonable level of acceptability by the needy, however it will take time for this to severe as a viable alternate to conventional housing. The government needs to monitor the private developments and devise policies to make them well organized affordable and sustainable alternate to the haphazard growth in conventional housing pattern.

Kathmandu Valley : City of Hope and Despair

- Ar. Sanjaya Uprety

Executive Member

SONA



Cities in Asia and the Pacific are centres of both hope and despair: while being engines of economic and social development they are also congested centres of poverty and environmental deterioration. Despite the relative abundance of health facilities in urban areas as compare to rural areas, the quality of life is poor especially of those living below the subsistence level mainly due to the lack of 'basic level of urban infrastructures'¹. This is quite contrast with many traditional towns where urban centres were planned to create a socio-cultural living with efficient management of interdependencies between man and nature. Traditionally urban development efforts in Kathmandu Valley, especially in medieval period, had been envisaged with management of such interdependencies and problematic of socio-cultural integration, as it was to be expected given the nature of the demand to which it was a response, a demand determined by the necessity of defence and continuity for survival through subsistence economy. Such effort testifies to urban planning that aimed at creating a city, which is economically viable, socially acceptable, culturally adaptable and environmentally sustainable. The continuity² of existence of medieval towns of Kathmandu Valley till date accounts for the success of these cities as self-sustainable "social units"³ in time and space. Living in medieval towns of Kathmandu Valley was "social experience" experienced through the efficient functioning in terms of meeting human needs. However the departure from traditional urban pattern of Kathmandu Valley during the Rana Rule and the modern development that followed after the

downfall of Rana oligarchy has been rather haphazard in terms of spatial expansion at the cost of limited resources due to rapid urbanization⁴.

The increasing population size and consumption vis-à-vis limited resources have demanded urban management of Kathmandu Valley to be more efficient in terms of achieving goals of sustainable urban development. This paradigm of sustainable development aims, to quote the words of the World Commission on Environment and Development, to meet 'the needs of the present without compromising the ability of the future generation to meet their own needs'. At the same time it tries to define "present needs" as distributive justice of the wealth; that is to say, providing empowered access to resources for all section of society both socio-economically and spatially. The urban development practice in Kathmandu Valley has not been able to create a balanced development between the valley and its hinterland in terms of creating effective demand for goods and services through planned economic investment in urban infrastructure and the housing sectors. As a result economic uncertainties marred by inflation, unemployment and poor living condition have made living in the valley very expensive and difficult. This has given rise to multitude of social problems which are evident in growing social crimes and evils in recent times. Similarly, the mismatch between the development goal of Kathmandu Valley and the subsequent strategies

1. 30% of the developing world's population does not have access to proper sanitation-over 50% in the case of Asia. In the main cities of developing world, 40-50% population live in slums and informal settlements
2. Continuity is not in the sense of the continuation of the traditional urban pattern but as an entity of medieval town
3. Social unit may be defined as social system and system of action which when coincides with spatial units, the terms community and urban institutions are usually used.
4. The population of Kathmandu Valley grew at an average annual rate of 4.6% in 1970 and reached above 6% in 1980. In 2001, the growth rate of the valley is estimated at 3.36 with over 50% of the total urban population of Nepal living here

adopted has not contributed much to retain the cultural significance of the valley. In such a situation the inputs required for sustainable urban development in terms of socio-economic and spatial plane needs to be redefined rationally. In socio-economic plane, sustainability requires building a sense of community within the present society and the future generation who have equitable access to the wealth or development benefits for the continuation of new urban social order that is adaptable to change. This is not impossible if spatial character of the city is well conceived and dealt in terms of its linkages to the surrounding areas, preserving the cultural identity through planned economic investment and creating goods and services, especially the housing, for effective demand of the people. It is within this background; this paper attempts highlighting the probable factors that can contribute negatively to the sustainability of the valley. Degrading socio-cultural condition evident in the loss of cultural identity, social distancing of the populace through residential differentiation caused by poor infrastructure condition, unplanned investment of property capital and lack of access to housing has been taken as major factors for the discussion.

In Kathmandu Valley, contrast to traditional urban sustainability, resources is being depleted and living, especially for low income and poor, has become difficult if not impossible. The reasons for depletion can be attributed to inefficient and inappropriate use of resources that have contributed to environmental degradation and inequitable development. One of the major problems with environmental degradation and inequitable development in Kathmandu Valley can be related to the poor level of existing infrastructure and subsequent planning effort to provide access to infrastructure for all sections of the society. An example of skewed access to the infrastructure service can be noticed in the decreasing proportion of pedestrian walkways to vehicular roads. Such situation has contributed to inequitable distribution of services that have negative consequences manifested in increasing air pollution, accidents and traffic congestions.

Another important deterrent in making Kathmandu Valley a city of hope is material and non-material cultural degradation due to unplanned economic development, especially the commercial development. Since most of the urban areas of Nepal including Kathmandu valley are not industrial towns but more of consumer towns, where services are produced and consumed, the approach to economic planning needs a different outlook. The realisation of this reality can be asserted in the form of past initiative to develop tourism related service industry in the valley for its obvious advantage of being heritage city. However, the experience indicates that this realisation could not be realistically materialised due to the unplanned and incompatible economic investment.

Today Kathmandu as an urban area has a number of reference: it may refer to a spatial form, to a cultural pattern or to a structural form. But, essentially urbanism in Kathmandu Valley is the cultural expression of spatial form. However in contemporary context the cultural expression of spatial form of the city could not be continued due to unplanned economic, social and spatial planning. A clear account of this fact can be traced in the commercial development in and around the cultural towns⁵ and its corresponding effects. The effect at its best could be noticed in the decay of traditional urban areas (today popularly referred as cultural heritage sites). In microeconomic sense, the huge investment of property capital in and around such heritage sites was initially encouraged by the tourism activity, proximity to infrastructure and dense settlement of the core and, later by the agglomeration of commercial and administrative units. Characteristically, property capital⁶ favours buildings for administrative, commercial and financial activities that is to say office blocks, shopping centres, recreational and many other commercial spaces. The prime investment motive here would be guided by the maximization of the profit. With the locational and situational advantages developer enjoys, people are willing to pay high rent thereby resulting into astronomical rise in the cost of the land in core areas. This means the traditional core area remains impoverished due to the owners unwillingness to invest

5. *Malla towns namely Bhaktapur, Kathmandu, Patan and other rural towns of the valley*

6. *In Kathmandu Valley, other than property and labor capital, only service producing industrial capital investment (e.g. tourism industry) is as appropriate for its ecological vulnerability*

in maintenance and development causing the decay of urban fabric. Unplanned investment of property capital in incompatible commercial development in and around city core has largely contributed to the decay of such heritage sites in terms of urban spaces and built form. In the absence of timely planned economic investment in medium scale commercial development and failure to respond to the new urban dynamics through appropriate urban renewal plan has left Kathmandu city core to transform at random creating multitude of environmental problems (viz. problematic of congestion, open space encroachment, light and ventilation, architectural image, safety and security etc).

Another aspect that needs mention here is the shift from traditional concept of sustainable land development to the new paradigm largely guided by economic determinism, which at its best is for creating economic benefits at any cost. This is conspicuously prominent, as mentioned in the preceding paragraph, in the nature of investment of property capital, which with profit maximization at the centre of development concept, is unwilling to invest in social infrastructure like housing. The end result is development of larger commercial spaces and luxury residential lots in central areas alienating and pushing the middle income, low income and economically weaker sections of society to the edge of the city in insalubrious housing conditions at the cost of fringe areas. Public sector's financial limitation to extend the trunk infrastructure to these areas and distancing of populace from work place due to poor transportation system has had negative socio-economic and environmental consequences. The issue of housing, in Kathmandu Valley, has been debated on two grounds; one providing all urban dwellers access to serviced land and other is providing dwelling unit through improved land and housing market mechanism. However the experience to date reveals that this has not happened due to ineffective urban management caused by various limitations in local and central government levels. Public sector's investment in urban land market has not been able to meet the growing demand⁷ leaving the development practice to informal developers at large. Similarly the emergence of organised housing

developers, largely acting in unregulated market condition, has limited their investment of property capital into luxury residential development which is beyond the affordability of the needy section of society. Such development has contributed to overcrowding in areas, which are considered to be ecologically sensitive and economically unviable. Such problem has its root to the poor and inefficient urban management that has contributed to differential social living. The growing differential social living in Kathmandu as evident in the residential development (in fringe, sub-urban areas) has been a key issue in the depletion of inelastic natural resources (over exploitation/pollution of water, soil, air etc) of the Valley.

It is thus seen that failure to address the problematic of infrastructure, socio-culturally compatible economic investment in urban areas and affordable housing development for creating multicultural homogeneity have been root causes that have hindered Kathmandu Valley's quest for sustainable development. In spatial sense, urban planning aiming at spatial containment of populace for community living, preservation of utility value of cultural heritage, developing mutually dependable linkages to the resource base and planned investment for income increase through market economy to create effective demand for social infrastructure will be keys of sustainable development in Kathmandu Valley. It can be achieved, as done in the past, by creating balanced dependencies between Kathmandu Valley and its hinterland through graded linkage development. So, one of the desirable departures in bringing about sustainability in current pattern of urban development is re-densification of the city core and development of urban-rural linkage and nurturing the urban rural continuum. This demands an appropriate urban planning intervention, which should aim at developing Kathmandu Valley for its cultural identity⁸ and socio-economic development through the realistic addressing of key development issues related to sustainable urban development. Then only Kathmandu Valley as a city can be argued as magnet of hope in true sense rather than resorting to argumentum ad populum

7. *The attempts by public sector towards meeting the demand could produce only 6% (280 ha) in two decades*

8. *The cultural identity in question is not the continuity of traditional culture but the transformation according to modern time, space and the existing conditions.*

In conclusion, the rise in power and the domination of the city has numerous positive effects⁹ in the economic, social and cultural domains. On the impetus of the rising bourgeoisie and middle class, having adopted the value of prosperity, a new urban culture progressively is taking its root, with the emergence of new consumer class. The revolutionary transformation brought about by globalisation of communication and information in recent decades has also seen erosion of community behaviour (e.g. collective consumption) affecting community living. The growing loss of primary relation and increased social distance has lessened the community consciousness for sustainable living giving rise to consumer oriented development strategies. Such development has affected the overall urban system depriving the basic inputs needed for sustainable development. However such inputs can be imbedded

in urban system by looking at the contextual socio-cultural and economic needs and available resources. “As it demands application of deontological logic in planning and seeks actions in economic, social and cultural planes of the environment, the extent to which we may aim and attain urban sustainability depends as much and even more on social agreement, will and foresight of the present than on the possibilities of technical know-how” This is achievable if radical change in basic attitude towards ways means and ends of living in urban areas. It will require the urban society to gradually move from its current base of ‘economy of surplus’ to that of ‘economy of sufficiency/need’, move from the ‘present period’ centred approach to accommodate the rights of the future and define, institute and regulate commensurate long-term rules of behaviour.

References

- Herbert DT & etl** *Social Areas in Cities; Process, Patterns and Problems*, John Wiley & sons Ltd, UK, 1978
- Lamarche, Francois**, *Property Development and the Economy Foundations of the Urban Question*, Appeared in “Urban Sociology; Critical Essays”, edited by C. G. Pickvance, Tavistock Publication, UK, 1977
- Midgley James** *Fields of Practice and Professional Roles for Social Planners*, appeared in the “Fields and Methods of Social Planning”, Edited by James Midgley & David Piachaud, St. Martin Press, NY, 1984
- Tiwari S. R.** *Sustainable Urban Development; Lessons from Historical Asian Cities-Theoretical Elaborations and Past Parallels*, based upon the papers presented in “International Conference on Culture in Sustainability of Cities II, Kanazawa, Japan. Oct. 2000, International Conference on Culture in Sustainability of Cities III, Chongju, Korea, May 2001(UNU/IAS & IICRC)
- Uprety Sanjaya**, *Private Sector and Urban Land Development in Kathmandu Valley; Review of Policy Paradoxes*, Research Paper, SONA Journal, Kathmandu, 2006.

9. *The urbanization process in Nepal is relatively new phenomenon but its importance and significance can be measured from its contribution to the national GDP which is over 60%.*

Shelter for the Rural Poor : An Introduction

1. Background.

This project is proposed for the extremely poor people, living in the Terai region of Nepal. There are many sects like Musahars, Pasang, Domes, Tusars, Chamars, Routes etc who are normally homeless and live in a temporary huts, erected on public land. Majority of them are illiterate, economically backward and suffer from malnutrition. These are the people who suffer most due to natural hazards like fire, floods, storm, etc. because of the poor shelter condition. Every year ten, of thousands of these families are affected by natural hazards. It is true that they cannot hope to have a hygienic and safe shelter in their entire life time and become free from these hazards. Thus, this pilot project will be an example of the fact that the poorest people also can build the safe and hygienic shelter at affordable cost.

This project proposal attempts to provide a very cheap but hygienic and safe shelter, to these poorest people of Nepal. In addition to the shelter it also aims to provide development infrastructures necessary for access to education, health, employment etc. Likewise, this project in addition to the provision of shelter will also improve the living condition of the poor people and enable them to live as human beings.

2. Present housing condition of the poor

The problems in the housing conditions of the poor can be divided into three parts :-

- A. Durability.
- B. Hygiene.
- C. Vulnerable to natural disasters.

Durability

Mud -thatch bamboo are the main construction materials of the rural people. Mud walls are not durable due to the splash of rain water or due to the rising dampness. Thatch and bamboo decay in a couple of years. So these houses need continuous repair and require complete rebuild after couple of years.

Hygiene

The unhealthy condition of the house and the living habit is the major cause of the poor health of the rural people of Nepal. Though the environment of the area

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is normally good and healthy, the condition of the house and its surrounding is generally poor and unhealthy.

a). Dampness in the house

Almost all the houses in the rural areas have no damp proofing. The dampness in the wall gives negative effects as follows :

- i. Weakens the wall structure.
- ii. Helps to decay other structures like bamboo, timber, iron materials etc.
- iii. Destroy the materials stored in the damped room.
- iv. Produces foul odour, creates unhealthy environment and causes diseases.

b) Smoke and ventilation

The use of sleeping room or the main hall as kitchen causes spread of smoke from the burning of firewood, leaves of trees or dried cow dung cakes etc. causing the family members to inhale the smoke continuously day and night. The effect is the spread of lung disease, heart disease, or other smoke borne diseases to the family members.

c) Thatch roof

Though fire hazard, burning more than 10,000 houses every year and making 10,000 families not only homeless but also bankrupt, is the biggest problem for the rural people, it also affects the health of the rural people in many ways. It absorbs moisture, rots fast and produces foul odour. The foul odour may contain many types of bacteria, pollens etc, which may cause many types of diseases like eczema, allergies, asthma etc.

d) Animal breeding

Also the use of sleeping room for animal breeding etc. causes spread of animal disease to the family members

e) Absence of latrine and waste disposal

Absence of latrine due to the lack of appropriate know how of the night soil disposal system and using open field around the building as latrine causes diseases of diarrhoea, dysentery, and other bacterial diseases. Also stagnant wastewater from the bathing and cooking areas helps the breeding of mosquitoes and are the causes of many diseases like malaria, kalazore etc.

Vulnerable to Natural Disaster

In addition to these health hazard, the poor families are the main victims of natural disaster like earthquake, storm, flood etc. The fire hazard alone makes almost 10,000 families not only homeless but also bankrupt as fire burn down all their properties which are their life long savings. This makes poor people still poorer. Similar is the case with storm and flood. All these problems arise due to the poor shelter condition of the poor people.

3. Solution of the problem

All the problems stated above exists in our project area also. To eliminate these problems, the Center has used many appropriate technologies like a. use of Cement stabilised soil block for wall, b. use of empty fertilizer or cement bag coated with bitumen for D.P.C., c. bamboo reinforced soil roof, d. bamboo doors and windows.

Some of these technologies have been innovated by the Center itself.

4. The Project Area

The project area selected is Silarawa Pachawani V.D.C. of Siraha district. It lies approximately 10 km. north of district head quarter. The main criteria to select this area is because of the availability of 1.5 hectare of land free of cost to launch the project. This V.D.C. has many clusters of settlements as common in other V.D.C.s. The project selects only three clusters around the donated land with about 500 families. The center has done one sample socio-economic survey of one cluster having 83 houses. There are two groups of people in this cluster residing around a public pond. One group is in the east and south of the pond whose number of families is 39. All of them have their own home and are financially in a better condition. The properties of

most of them exceed hundreds of thousands of rupees. On the other hand, the other group known as Musahar and Pasawan live in the north of the pond. None of them have their own home. They just have erected temporary huts in the public land or in the land belonging to some other land lord. The total number of families in this group also is 39. They are financially very poor and living in a very congested way. The remaining 5 families are Muslims living in the south west-corner of the area. Their economic condition also is similar to the Musahar and Pasawan group.

5. The Target Group

The target group of this project will be the Musahar and Pasawan group who are at present living in the shelter of very wretched condition. Most of these shelters have only one or two rooms for a family of 6 to 10 members. Some families have more than two married sons and have only one room shelter. So there is no question about the need of additional rooms for these families. The families have no saving for housing. They spent whatever they earn. If there is any additional income, they do not save it. They either do not go to the work to earn or spent the reserve money in alcohol, gambling etc. So it is very essential to make these people to establish a saving habit. Providing a subsidized loan to these people for constructing the shelter which each family feel essential, the project will be providing not only the basic need of life but also establishing the habit of saving which normally they misuse.

During the socio-economic survey it was found that every family not only demanded the need of new shelter but express their readiness to take loan and agree to pay it back on installment basis. There is the 100% response from both the groups i.e. Musahar, Pasawan as well as the other economically well off group. Though the target group will be the Musahar, Pasawan, however the project will be providing appropriate construction technologies to other groups also. By constructing the shelter to these economically backward and needy families, the project will be making all the villagers capable to build their shelters by themselves. For this, the project will be giving not only the technical guidance but also such other assistance like giving block making machine, steel form work for pre-cast work etc on loan, without rent.

6. Planning Strategy

After extensive study of the living conditions of the target group, it was found that their requirement is very high. The number of children of most of them are very high. So the number of rooms required are very high but their capacity to pay is very low. So, only the minimum number of rooms to make the shelter affordable to them will be provided. Cluster of row houses are chosen, as this makes the infrastructure cost minimum which ultimately makes the per unit cost minimum. In addition to the shelter, space for school, health, recreation, employment generation works etc. are also provided as described below in the Master Plan.

7. The Building Plan

The building will have two rooms one for the parent and the other for the children. In addition to these two rooms, there will be covered verandah which will have multipurpose use including living, kitchen dining and sleeping at night. These verandahs will have roof, supported on the bamboo posts. To reduce the cost of construction the partition or curtain walls are eliminated in the initial construction. The owner however can easily construct the partition or the curtain wall in due course of time. These walls can be constructed as per the local practice i.e. fixing bamboo net in the already existing bamboo posts and plaster with mud.

8. The Master Plan

The master plan is designed in an area of 1.5 hectare. The total number of shelter will be 100. The central area will have common Services like Community Center, Village Wells, Grocery shops, Cottage Industries etc. The various components of the master plan are as follows :

1. Number of Shelters	100
2. Number of Low Cost Toilets	100
3. Village Wells.	2
4. Number of Shops	5
5. Community Center	1
6. Health Center	1
7. Project Office	1
8. Primary Preparatory School	1
9. Fish Ponds.	3
10. Shades for Cottage Industries	4

9. The Cost Estimate

The shelter has been designed by SLTD Center, a research oriented NGO of Nepal after extensive research on local building materials and local construction technology. The design is labour intensive with 51.5 % as labour component (compare with 27 to 30 % labour component in conventional design) .

- The cost of each shelter is estimated at Rs. 49,807.94
- The above estimate includes Rs 16,732.00 as cost for labour. If we adopt 50 % Self Help labour of the settlers the estimated cost can easily be reduced by Rs 8,366.00. So the cost of each shelter will be reduced to Rs. 41,441.00

c. Project Cost Estimate.

i. The total cost for constructing 100 shelters -	4,144,000.00
ii. Cost of Low Cost Latrine 100 Nos. @ Rs. 4000.00	400,000.00
iii. Land Development	400,000.00
iv. Site supervision	400,000.00
Total for the Construction	Rs. 5,344,000.00

This is approximately U.S. \$ 76,000.00 (U.S.\$ Seventy Six Thousand)

10. The Project Proposal

To improve the living condition of the poorest families is a great humanitarian work The request was made for financial help to many possible donors. There is a good response from many circle. Fuller Center of U.S.A. is the first to offer the assistance for the first 100 houses to be implemented in one of the Terai village of Nepal. It was tried to get land for the implementation of the project in donation. The land area required is approximately 1.5 hectare. Though many persons have committed to donate the necessary land. But Mr. Krishna Charan Shrestha the M.P. of Siraha district is the first to come with a confirmed commitment of donating the required land. This is the main reason for executing this pilot project in Siraha district.

11. Fuller Center of U.S.A. & the Project

Fuller Center is a humanitarian organization, established by Mr. Edward Fuller, the Founder of Habitat for Humanity International. Mr. Douglas Roscoe is the man who has initiated this project in Nepal. Mr. Douglas Roscoe along with Mr. David Snell, the Vice President of Fuller Center visited Nepal

on 31st. Aug 2005 to finalize the offer and talk about project implementation They went back after the final talk with SLTD Center. After they reached their home they send the confirmation letter and the draft of MOU. The MOU has been agreed by the Executive committee of SLTD Center and agreement was signed on 8 Dec. 2005.

12. Implementation

First of all a community from among the beneficiaries will be established and then an executive committee will be formed from the community. The committee will have some members from outside like an expert from SLTD Center, member from donor, prominent social worker of the area and the like. A project office headed by a technical personnel will be established. This project office will work under the control of the executive committee.

The main function of the committee will be to mobilize the settlers, execute the project, provide employment to the settlers and provide land for the project. The land required per location is 1.5 hectare (minimum). The bigger the land area the better it is. For new rehabilitation project, campaign will be launched for land donation. SLTD Center has already started such campaign and five donors - two in Siraha districts, one in Saptari district and two in Morang district have promised to provide land for such projects.

13. Method of Implementation.

There are principally two methods for implementing this type of project viz.

- i. Giving land and cash for shelter construction in charity or.
- ii. Giving subsidized loan for the same.

The project adopted method ii, i.e. giving interest free loan. The procedure will be as follows :-

- a. The project will be implemented on the pay-back system.
- b. The pay back period will be maximum of 10 years.
- c. Interest on pay back amount will be free.
- d. The pay back amount will be reused for similar development works.

The local executive committee will be responsible to select the beneficiaries, collect the payback money and recommend procedure to spend the pay back money.

14. Economic Activities in the Project Areas

In addition to the construction of houses for the community, many economic activities are proposed to create jobs to the families to be settled. This is very essential to make the settlement project sustainable. The proposed job opportunities are as follows :

Firstly, the type of houses proposed in this project proposal are constructed primarily by using local buildings materials like soil, sand, bamboo, cowdung etc which are available either free of cost or at a throw away price. In other words, the major cost of construction is labour and all the adult persons who will be settled can be engaged as labourer. Hence during construction period which will last for 5 to 6 months, the families will get job in the construction of their own house and will get practical training in the improved local construction technology. After completion of the project at least 10 % of the community will come up as masons and they will get job in the similar extended project or in the construction of houses in the neighboring rural areas.

During construction period, planning work for the creation of jobs for the families to be settled can be carried out. This work can be carried out through various NGOs, INGOs, Rural Development Bank, etc. Though the actual nature and proportion of jobs to be created will depend upon the demand of the surrounding areas, the tentative creation of jobs can be assumed as follows:

- i) Almost all the adult members of the 100 families to be settled in the area will get job as labourer in the construction of their own shelter and after completion of the project about 10 to 15 % will get job in the similar extended shelter project or in the construction of houses in the neighbouring rural areas.
- ii) Some shops for selling day to day consumer goods will be necessary in the project area. Hence, 5 to 10 % of the families will engaged as shopkeeper in the area.

- iii) About 5 to 10 % of the families will be engaged as assistants in the project area as the peon, watchman etc.
- iv) 10 to 15 % of the families will be engaged in cottage industries.
- v) Another 10 to 15 % of the families will be engaged in the agro-based industries like dairy, poultry, fishery etc.
- vi) The remaining families will be engaged in agriculture.

The project office will coordinate for arranging loan and other from the concerned bodies.

15. Why Pilot Project

There are several hundreds of thousand of families who are living in temporary types of shelter in Nepal. To provide hygienic, safe and functional shelter to all these families by any organization is not possible. So our aim should be to make these poor families capable to build their shelter by themselves at affordable cost. For this, first we have to demonstrate how , safe, hygienic and functional shelter can be made from local materials and local labour which are the only things the rural poor can afford. In this project we have planned to construct 100 demonstration houses from these poor man's materials. Though mud, bamboo, soft wood etc are the main building materials used in this demonstration project, small quantities of non-local materials like cement, bitumen. G.I. wire etc. have been used just to make the local materials function better and by this way we eliminate the drawbacks that exist in the local building materials. By constructing 100 houses we cannot solve the housing problem of the poor families of Nepal but if we can make them capable to construct their shelter by themselves, the housing problem will be solved automatically. The aim of this

project is to give safe, hygienic and functional shelter to 100 poor families of the project area and also disseminate the appropriate technology to the local areas so that other people also copy the construction method and construct their shelter by themselves. So this project can be called as the pilot project of shelter development. In fact, we should execute one such demonstration project in each district of Nepal, so that the technology is disseminated in all the rural areas of Nepal.

16. Conclusion

The houses proposed in this project is designed after extensive research on cost effective construction technology. Local building materials as well as local construction technology have been used to the maximum extent. Strength and durability have been achieved by the introduction of improved construction technology like stabilized soil blocks instead of sun dried mud bricks, bamboo reinforced stabilized soil roof instead of thatch and so on. Fire hazard, health hazard etc. that exist in the conventional rural housing will be eliminated from such construction.

This housing project will be an example in Nepal that poor people also can live in a hygienic and safe shelter within a healthy community if proper planning is made. To make the project sustainable a number of job opportunities have been suggested as explained in the economic activities in the project area. The coordination with other NGOs will be very necessary. This will not be very difficult as so many NGOs are working in Nepal for poverty alleviation programmes. This project office will assist in the construction of infrastructure to carry on such economic activities.

Satellite Towns-Solutions to Subsidize the Overwhelming Cities

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The growing trend of rapid urbanization has been creating great impacts on the lives of people all over the World. It is a fact that urbanization is an irreversible phenomenon and the process of change from rural to urban life could be taken as a result occurred due to the basic reason of developing nature in human civilization and the limitations of the natural resources which compels to search for alternate methods of sustainability. This necessity has encouraged the human civilization to flourish in the development trends that are visible all over the world today. The initiative taken by the industrial revolution has brought a definite strength in the process of urbanization. The major impacts of this revolution were felt to have both positive as well as negative aspects since it has provided a strong alternative approach towards economic development along with the irresistible problems of pollutions and congestions. The developed countries of today's world have already experienced the period of transition between the rapid urban-growth brought by this revolution, that created a wholesome degradation in the living environment to the remedial steps taken to return the healthy environment with the interventions of nature. But in the context of developing and under developed countries of today, the various impacts of urban growth call for planned actions to rectify the problems those are being generated now. The solutions to these problems need to incorporate strategies for sustainable economic development, considerations for health and hygiene and decentralization to avoid congestions in the urbanization process.

The nature of rapid urban growth and the requirement to encounter the peoples needs due to increasing rate in population growth and migration has resulted in hasty provision of the urgently required amenities. Since the cities population grow in a multiple

number, the requirement of basic amenities are always in higher and higher demand. At times, difficult situations are more likely to arise while providing these infrastructure facilities, because the cities might not have such designs which can accommodate the desired needs or it might not have the capacity to facilitate the needs to the desired extent. As a simple example, the Durbar Squares of the Kathmandu valley can be taken. All the three squares are the most concentrated zones in the three cities since they house the important activities here. As a result, concentrations of residences also occur in close proximity to the core areas. This has demanded more and more infrastructure facilities whose provisions are at most of the times discouraged by the narrower roads and compact building layout of the traditional city plan. Since the traditional architecture of the valley possess such glory that it is recognized worldwide today and is one of the prominent sources of income to our country, So to safeguard all these values of the traditions, various norms concerning with height constraints, light plane angle, ground coverage are made to be obeyed with compulsion in the case of new constructions. This is the reason that the cities of the valley especially the Kathmandu city does not accommodate with ease the people's population residing in it. In order to build up the capacity to absorb the density that a city needs to accommodate, and also to provide the facilities to activate it in a healthy manner, the peripheral areas of these overcrowded cities need to be developed. The urban design and development in these peripheral zones can thus be provided in forms of satellite towns which not only share the urban growth and help in decentralizing the city core but also can

contribute in development of areas further away again. In the case of the Kathmandu Valley's cities it is most convenient to practice the planning approaches in the peripheral zones, since they still possess larger area of vacant land.

Satellite towns are also termed as supporting towns which support the main city at the center. Since it is the human tendency to locate important activities at the center and their supporting activities around them in concentric circles, like in the designs of the traditional towns of the Kathmandu Valley, which locates the palaces at their centermost and the placement of the civilians zones to its surroundings in concentric circle. With similar theory that relates to the garden city designs, the central city core would be supported by these satellite towns which would be laid out in radial rays and these supporting towns would be developed to house the residence areas and institutions of basic needs. Though commercial areas and industrial areas are also desired to be laid out in them, they would also be facilitated with higher percentage of open and green areas as compared to the city centers. These satellite towns besides being the support to the main city center are the ones on which the urban planners can play various designs to supplement the most recent and possible future requirements. The potential of these towns also lies in their feasibility to be planned in various aspects such as in laying the land use plan, providing planned housing plots, installing the infrastructure facilities before the constructions of buildings, placement of basic amenities such as health and educational institutions in appropriate areas and numbers etc.

The increasing growth in migrations to the city core can be absorbed by these satellite towns to a

greater extent. These towns would accommodate not only the people from the less developed areas who migrate for various purposes such as to build their economic status, for educational purposes or for health and other institutional services, but can also attract the native inhabitants from the city core, who desire to have peaceful and pollution free environment, to reside here. The inter-connections of these towns to the main city and their subordinate cities provided with quick and efficient road network services, would play an important role in the development of these cities as well as the rural areas to their proximity. Since the satellite towns would be the ones planned totally on the urban basis, it is obvious that the way of functioning of these cities would yield a better urban environment in terms of both economy and health than the ones which are experiencing haphazard growths. Besides, the economic benefits that lie solely within the core areas can also be distributed to these towns and areas further away as these towns would serve as bridge between the core area and the peripheral zones. The decentralization can be achieved in the city core which would in turn facilitate the planning actions to be laid out with ease in the core areas. In the Kathmandu Valley's cities context, the satellite towns can contribute a lot in improving the city's environmental by sharing the overwhelming populations and their growth activities, which in turn would provide healthy living environment for both the people and the architectural wonders which are crying for proper attentions and preservations. So, to achieve planned urban development, maintain healthy living environment and to retain the absorbing capacity of the city, these satellite towns would play a role of great support.

अनुरोध

आवास, शहरी विकास तथा भवन निर्माणसँग सम्बन्धित विषयहरूमा तयार पार्नु भएको शोधमूलक सामग्रीहरू हामीलाई प्राप्त भएमा आवश्यकता र औचित्यता हेरी यस बुलेटिनमा प्रकाशित गर्दै लगिने कुरा सम्बन्धित सबैमा हार्दिक अनुरोध गर्दछौं ।

अन्त्यमा, प्रस्तुत शहरी विकास बुलेटिनको “विश्व-वसोवास दिवस” सम्बन्धी पाँचौं विशेषाङ्क र विभागको बुलेटिन प्रकाशन सम्बन्धी एघारौं प्रयास भएकोले यसभित्र हुन सक्ने सम्भावित त्रुटीहरूलाई पाठक आफैले सच्चाई ग्रहण गरिदिनु हुन र हाम्रो भावी प्रयासलाई अरु बढी सक्षम र विषयोपयोगी बनाउन पाठक महानुभावहरूबाट आ-आफ्ना अमूल्य राय सुझावहरू निरन्तररूपमा उपलब्ध गराइदिनु हुन समेत हार्दिक अनुरोध गर्दछौं ।

हाम्रो ठेगाना:

शहरी विकास तथा भवन निर्माण विभाग

शहरी विकास महाशाखा

तथ्याङ्क तथा भू-सूचना प्रणाली शाखा

बुलेटिन प्रकाशन इकाई

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